

Total Talent

*Equipping All Michiganders with the
Education and Skills Needed for Success in the
Economy of Today and Tomorrow*

Prepared for **Michigan Higher Education Attainment Roundtable**
Facilitated by the **Michigan College Access Network**



MICHIGAN
COLLEGE ACCESS NETWORK



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Michigan Higher Education Attainment Roundtable

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About This Report

In 2005, the Cherry Commission report set an agenda for Michigan higher education attainment. In 2014, after a 10-year hiatus, stakeholders in Michigan’s decentralized higher education policy community voluntarily rejoined with the Governor, Key Cabinet Agencies, and the Michigan Department of Education to take stock of progress and lay out a blueprint for continued action. The Postsecondary Credential Attainment Workgroup released its 2015 report *Reaching for Opportunity*, and went to work to implement the report’s recommendations. In recent years, the Workgroup has continued its collaboration under the sponsorship of the Michigan College Access Network (MCAN) as the Michigan Higher Education Attainment Roundtable (MIHEART).

One of the goals of the group is to continue to drive attention and action to this vital talent attainment agenda. To periodically take stock of progress, consider how best to advance current efforts, as well as new work—all dedicated to helping Michigan realize a goal of 60% of its people earning valuable postsecondary education credentials by 2025, and make Michigan a talent leader.

This report lays out the progress and accomplishments to date, reflects on Michigan’s Talent Attainment performance, looks ahead and offers a call to action and a “total talent” state agenda for ensuring all our citizens get the education and skills to succeed in the economy of today and tomorrow.

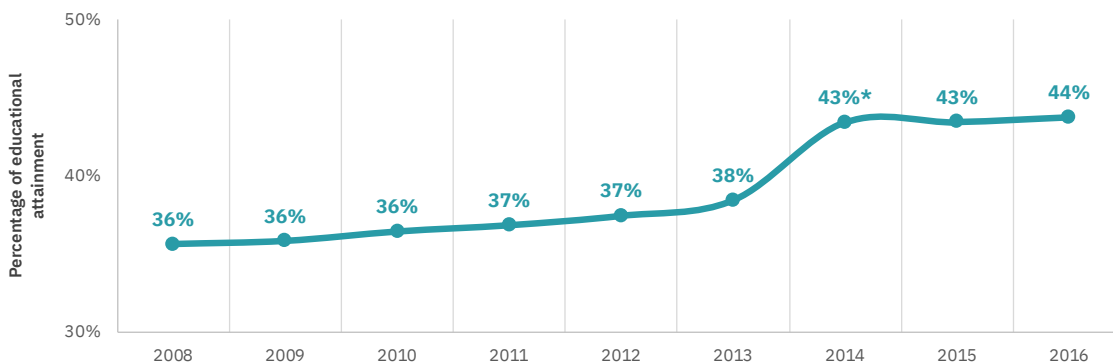
Executive Summary

In 2004, the Cherry Commission report set an agenda for helping many more Michigan citizens achieve valuable postsecondary credentials. Subsequently many of the report's recommendations for state policy, community action, and institutional practices were made real. In 2014, after a 10-year hiatus, stakeholders in Michigan's decentralized education policy community voluntarily rejoined with the Governor, key cabinet agencies, Business Leaders for Michigan, regional thought leaders, and foundations to take stock of progress and lay out a new blueprint for continued action.

Since the release of the group's Reaching for Opportunity report in 2015, collaborative work by members of what has become the Michigan Higher Education Attainment Roundtable (MIHEART) has seen implementation of many of the recommendations, and important progress towards the goal of seeing 60% of Michigan citizens achieve a valuable and necessary postsecondary credential.

FIGURE 1 Michigan's progress

To reach state goals, the state will not only have to maintain current rates of attainment but also significantly increase the number of people who enroll in programs and earn all types of credentials beyond high school. With the inclusion of workforce certificates (beginning in 2014), Michigan's overall rate of educational attainment has increased by 8.1 percent points since 2008.



*Note: Since 2014, workforce-relevant certificates have been included in the total of postsecondary credentials.
Lumina Foundation, Stronger Nation Report 2016

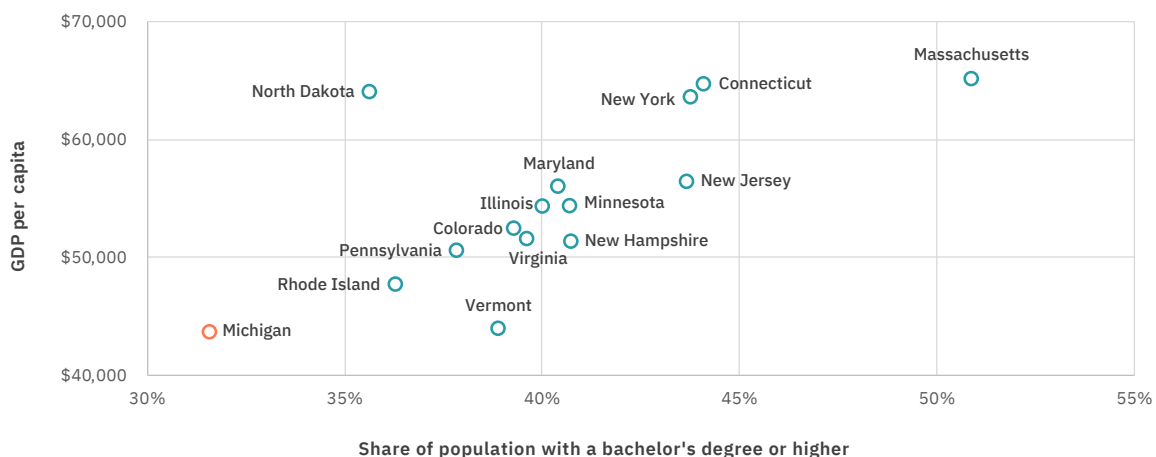
In recent years Michigan has:

- ▶ Reintroduced an emphasis on career development and planning in our K-12 schools
- ▶ Improved the continuing education requirements for school counselors with an emphasis on college and career readiness

- ▶ Increased the number of high school students participating in early postsecondary credit-earning programs
- ▶ Expanded Career-Technical Education (CTE)
- ▶ Scaled successful community college success initiatives to ensure more students are completing credentials
- ▶ Enhanced genuine collaboration among community colleges, public universities, and independent colleges to guide students in more efficient pathways toward credential completion.
- ▶ Strengthened the state's education data infrastructure led by Michigan's Center for Educational Performance and Information (CEPI) to improve reporting of postsecondary educational attainment outcomes, and better aid policymakers to utilize data to drive decision-making.
- ▶ Approved the Marshall Plan for Talent, providing funding to fuel Michigan's talent development strategy.

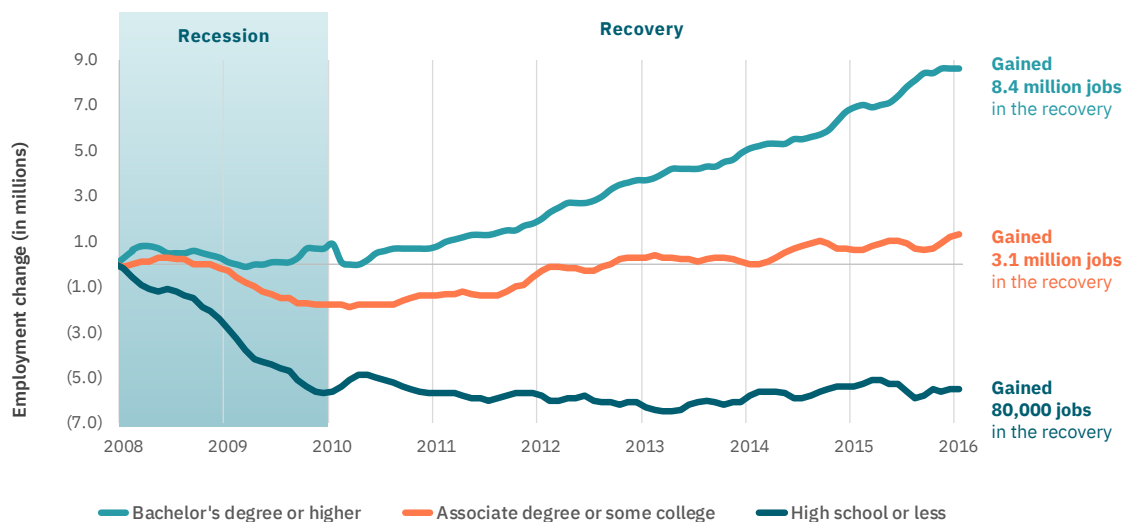
These collective efforts have contributed to Michigan raising the share of workers having attained a valuable postsecondary credential eight points in the past nine years– from 36% to 44%. But this is not nearly enough. Other states are outpacing Michigan in the talent race by marshaling greater will to implement real policy change.

FIGURE 2 Top 15 states by higher education attainment and GDP per capita, in comparison to Michigan



US Census, Bureau of Economic Analysis, 2016

FIGURE 3 Jobs gained and lost by education attainment level 2007-2016



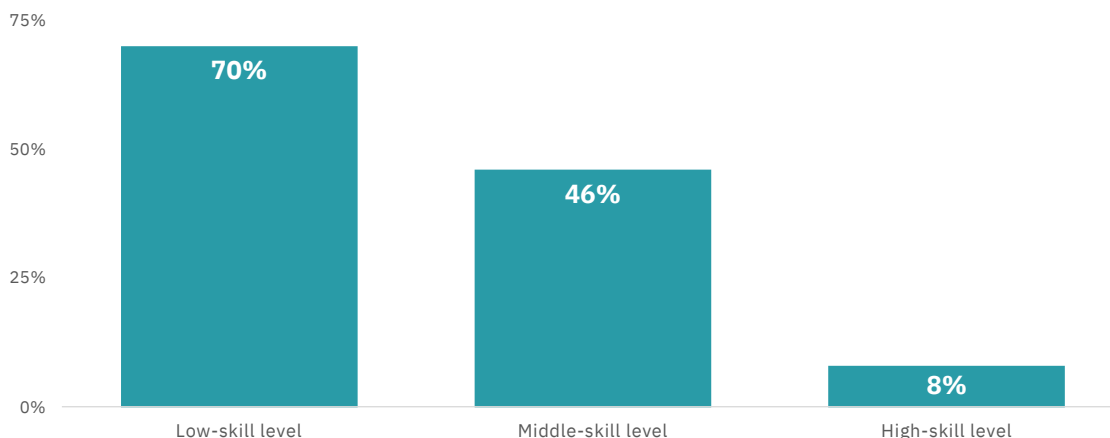
cew.georgetown.edu/cew-reports/americas-divided-recovery/#interactive

Today's workplace is changing fast to demand and reward greater skills and higher levels of postsecondary education. Since 2011, 99% of new jobs require education beyond a high school diploma.

High-skill jobs are growing, middle-skill jobs are changing from routinized production work to high-tech professional services, and low-skill jobs are disappearing. Over 70% of low-skill jobs stand to be automated in the next dozen years, and one-third of Michigan's workers holding these jobs will see them disappear entirely.

FIGURE 4 Low-skill jobs at greatest risk of automation

Percentage of jobs, by skill level, at a high risk of being automated in 20 years.

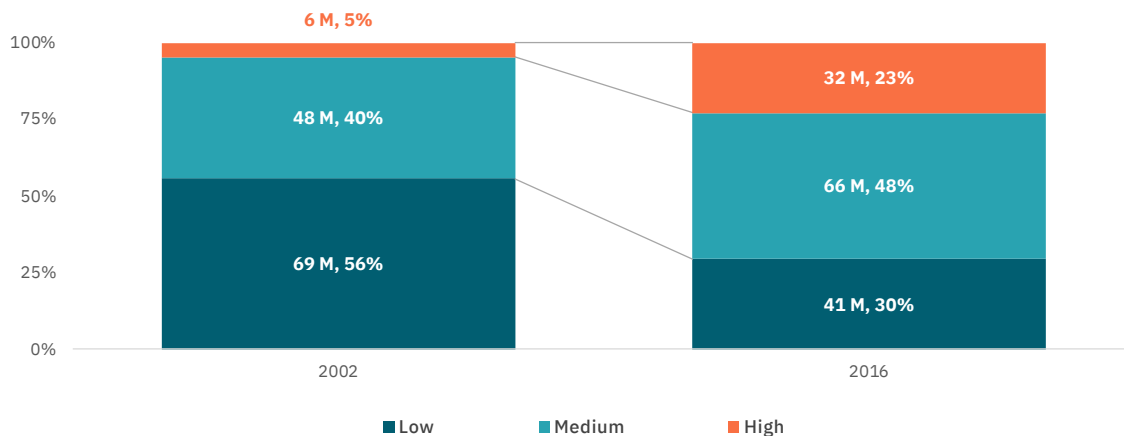


USA TODAY analysis of data from Carol Benedikt Frey and Michael A. Osborne, authors of "Future of Employment" and EMSI/ CareerBuilder. Frank Pompa and MaryJo Webster, USA TODAY.

The skills required in all good jobs are also changing fast -- requiring much higher levels of digital sophistication, technical expertise, and what were once called “soft” skills but today are critical skills like communication, problem-solving, creativity, and persistence, that foster success in the workplace.

FIGURE 5 Employment by levels of job digitization

Years 2002 and 2016



Brookings analysis of O*NET and OES data

These economic realities demand that Michigan’s workers all earn a postsecondary degree or credential that allows them to get and keep a good paying job, and build the skills to adapt to the changing workplace of today and tomorrow.

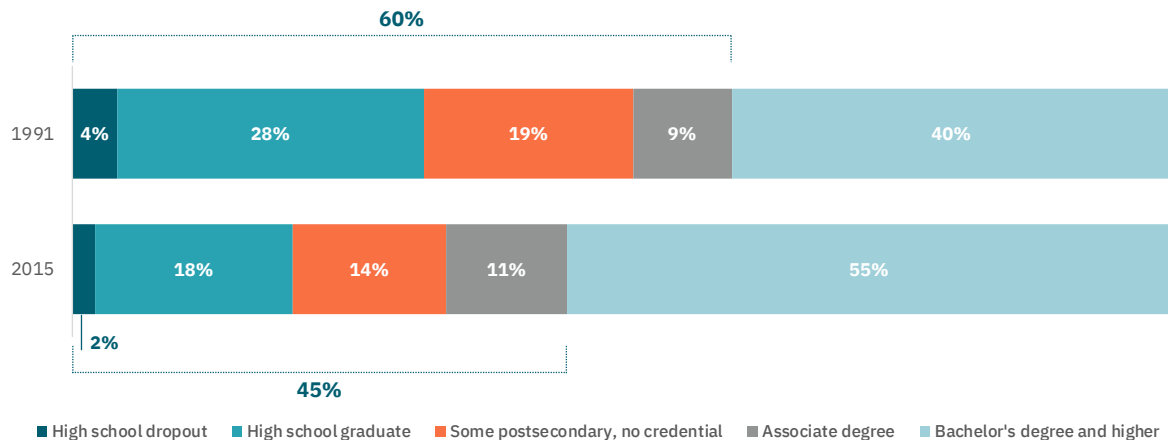
They also demand that we reconsider our approach to education. Once upon a time, we prepared some workers as professionals with a college education, and others with a vocational program for an occupation to last a lifetime. This approach does not work today. We must coalesce our efforts and end the “College” versus “Career-Technical” debate. Michigan’s agenda must be College *and* Career not College or Career. In other words, we must unify policymakers and stakeholders with a simple message: A high school diploma is not enough to compete – Michigan’s talent pool needs more people with postsecondary credentials at all levels. And we can’t think of degrees or certificates as the end of learning but rather as valuable way stations on an evolving career path – a path where credentials are earned through a great diversity of learning programs that allow workers to continue earning additional credentials across their lifetime.

Today, a higher level of formal postsecondary credentialing pays greater dividends for the individual and our state’s economy. Current and future high-demand high-paying jobs require higher levels of formal degree and credential attainment. 43 out of the 50 Michigan “Hot Jobs”

require credentialing past high school; 36 of the 50 require a bachelor's degree or higher! As recently as 2001, over 60% of jobs that paid a decent wage could be had with less than a bachelor's degree, today it's less than 45%.

FIGURE 6 Share of good jobs by educational attainment

Between 1991 and 2015, the share of good jobs doing to workers without a bachelor's degree fell from 60 percent to 45 percent.



Georgetown University Center on Education and the Workforce analysis of "Current Population Survey Annual Social Economic Supplement (March), 1992-1996."

To respond to these workplace realities, Michigan's leaders must act with urgency, and make talent attainment the Number 1 public policy priority moving forward.

This report notes the State's progress and accomplishments to date, reflects candidly on Michigan's talent attainment performance, looks ahead and offers a call to action for a "total talent" state agenda for ensuring all our citizens get the education and skills to succeed in the economy of today and tomorrow. This agenda includes "doubling down" on the strategies and programs that are currently working to increase the numbers of Michiganders affordably earning postsecondary credentials and that are helping squeeze maximum performance and efficiency from our state tax dollars invested in education. Within these strategies Michigan leaders must pay even more deliberate attention to close severe gaps in progress towards and ultimate credential attainment by race and income. For all learners Michigan must:

- ▶ Continue to enhance and improve career awareness and college/career counseling at both high school and postsecondary levels;
- ▶ Enhance collaboration between K-12 and Higher Education institutions to improve alignment, articulation and acceptance of credit in appropriately rigorous academic and CTE content areas.

- ▶ Improve transfer and credit acceptance between various higher education institutions for seamless and efficient learner progression to credential-earning;
- ▶ Increase high school student participation in all forms of powerful and cost-saving early postsecondary credit-earning programs (dual enrollment, Early/Middle Colleges, Career-Technical Education (CTE) and AP/IB course taking)
- ▶ Enhance institutional credential completion and success strategies for learners among colleges and universities.

In addition, given Michigan's population and recent history of reducing investments that help Michigan's learners attain an education past high school -- two major challenges must be overcome that are Michigan's largest obstacles to talent attainment:

- ▶ Engage Current Adult Workers in Postsecondary Credentialing: Given a declining school-aged population, in order to reach Goal 2025 Michigan must target the large numbers of today's workers with only a high school diploma as their terminal credential. Michigan has the 5th highest rate in the nation of workers already in the labor market, that have some education past high school but without the security of a postsecondary credential. These workers are particularly at risk of seeing their current job disappear.

FIGURE 7 Share of Michigan adults with some postsecondary, no credential vs. nation
Michigan has the 5th highest share in the nation

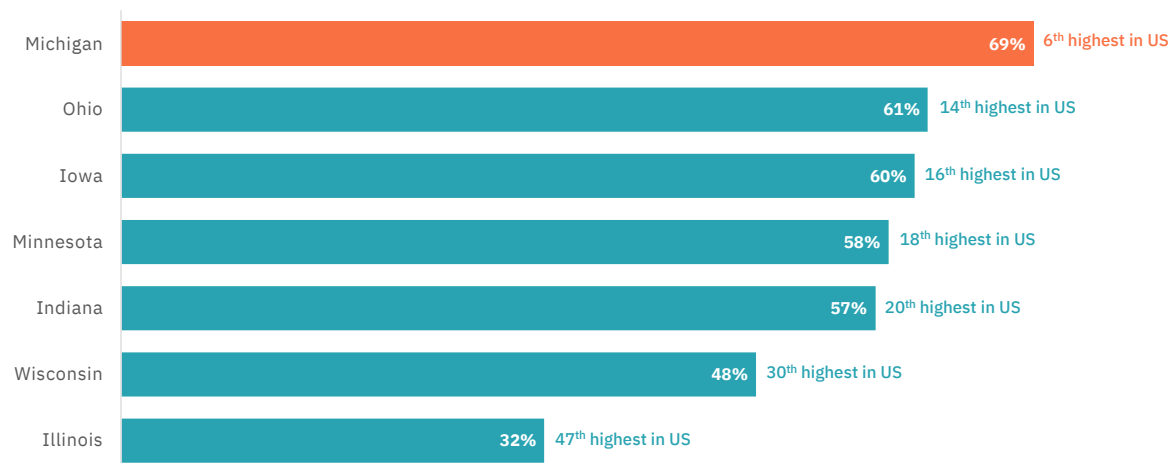


U.S. Census Bureau: <http://www.census.gov/programs-surveys/acs>, ACS 2016 1-year estimates

A priority must be to package existing state and federal resources to engage these adults and guarantee them the resources needed to ensure they earn a job-keeping, stackable postsecondary credential.

- **Reduce the Burden on Families - Make Education Past High School Affordable:** At one-time the State of Michigan paid for over 70% of the cost of higher education at one of our state's institutions. Today that burden has been shifted to students and their families.

FIGURE 8 Student/ Family share of college expenses



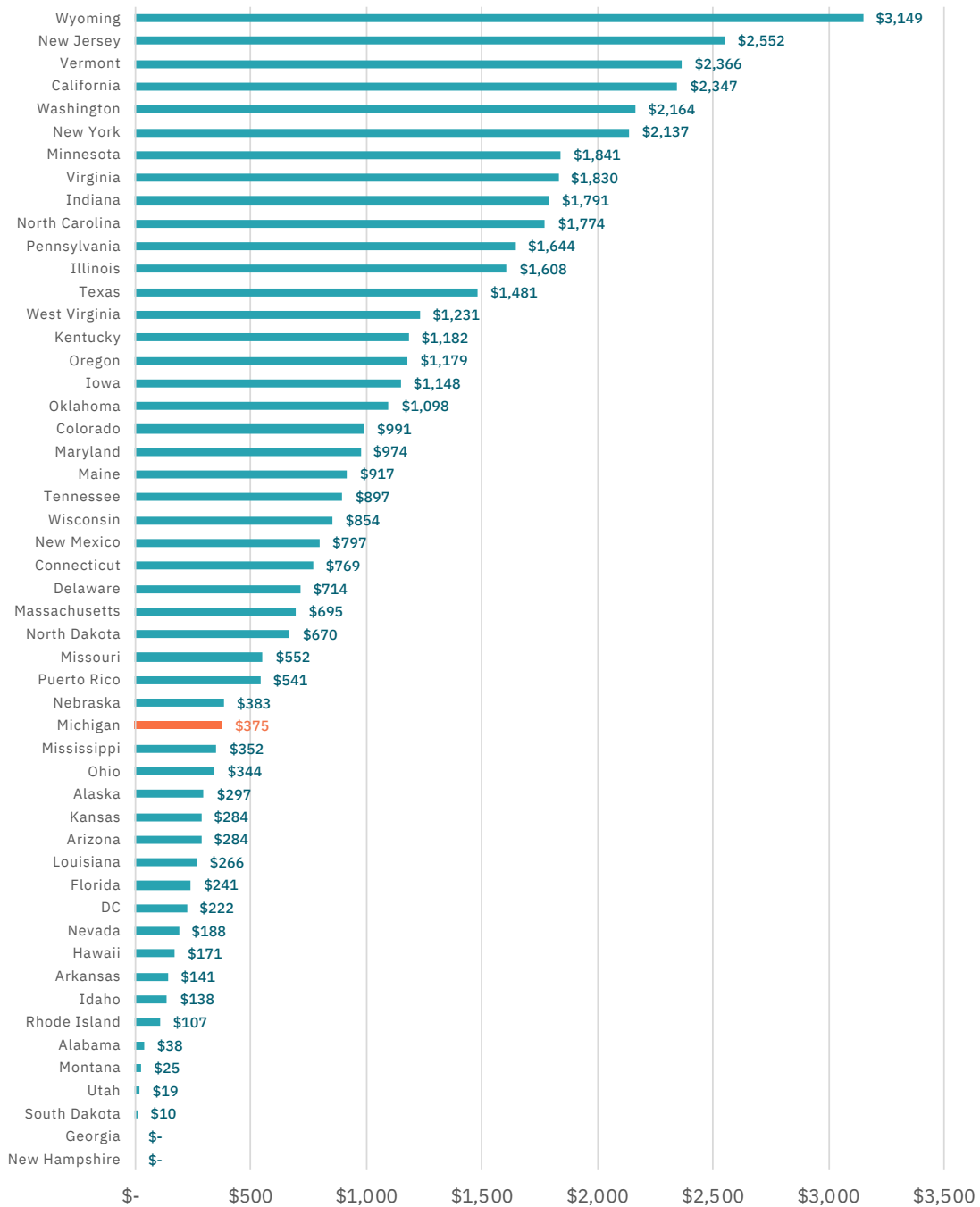
Michigan League for Public Policy

So much so that Michigan is among one of the worst states in the nation in terms of financial support for learners seeking postsecondary education, who don't have the resources to afford it. Many students and their families can't conceive of how they could afford a higher education, and don't pursue it. This means Michigan loses these individuals' talents for the future. To join the top states in postsecondary credential attainment and put an essential postsecondary credential within reach of all learners, Michigan has to commit to invest in need-based financial aid commensurate with the challenge ahead.

FIGURE 9

Michigan's Need-based undergraduate state aid vs. other states

Amount per in-state undergraduate student, 2015-2016



NASSGAP report, 2015-2016, IPEDS Enrollment 2014-2016



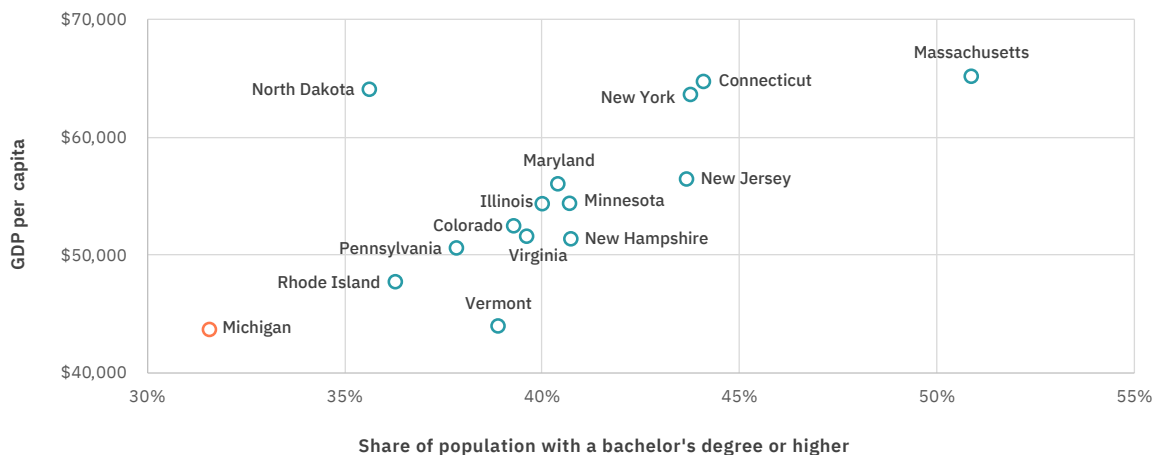
The Imperative of Increasing Michigan's Talent Attainment

Michigan has to get serious about talent attainment.

As never before, states, communities, and individuals with higher education credentials – advanced degrees, traditional associate and bachelor's degrees, technical certificates, and other work-world-valued credentials earned beyond high school -- reap the greatest rewards in the form of good jobs and economic security in today's fast-changing economy.

Prosperous states and high-income communities are defined by high education attainment levels. States with high incomes are largely succeeding because they are winning the talent race.

FIGURE 10 Top 15 states by higher education attainment and GDP per capita, in comparison to Michigan

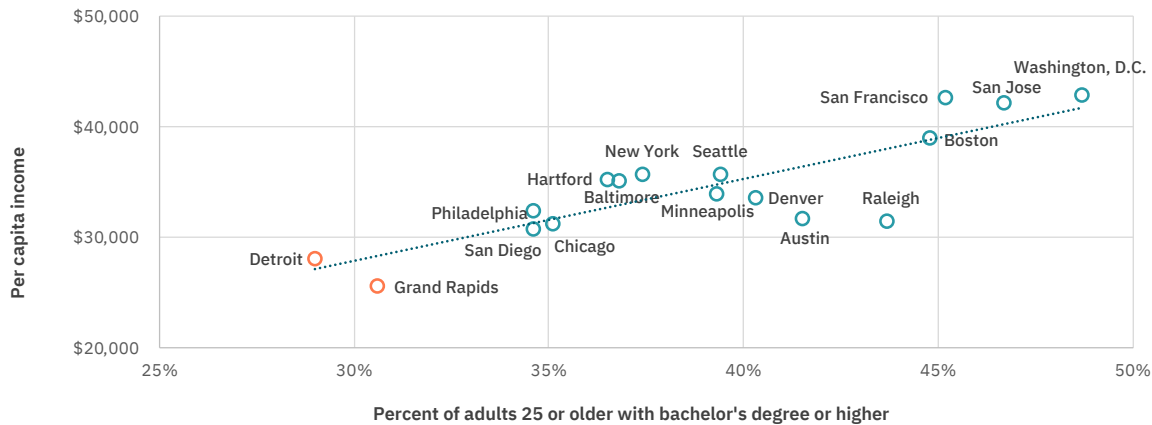


US Census, Bureau of Economic Analysis, 2016

As are communities, including those outstripping Detroit and Grand Rapids in the competition for the next Amazon Headquarters.

FIGURE 11 Higher education drives community prosperity

Top fifteen metros for education attainment per capita, in comparison to Detroit and Grand Rapids, MI

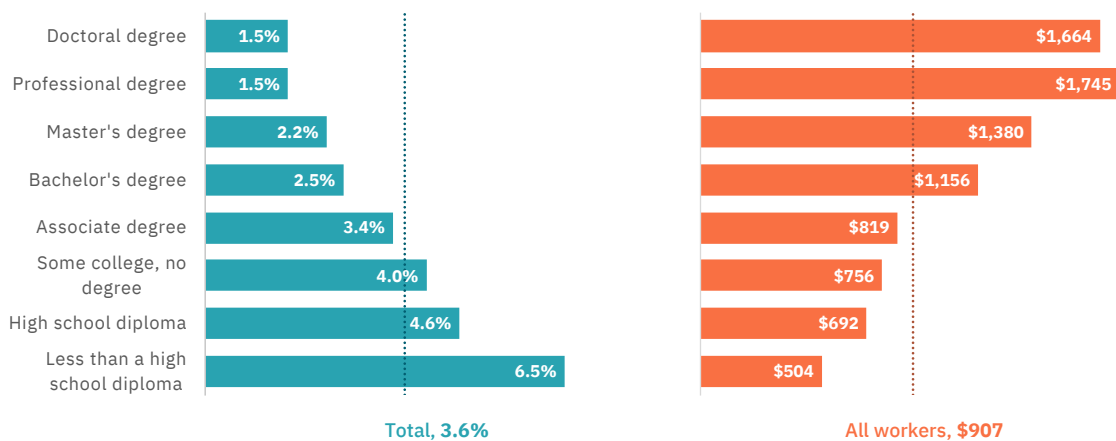


Notes: Data for this chart are drawn from the American Community Survey (educational attainment) and from the Bureau of Economic Analysis (per capita income). The four-year college attainment rate is a proxy for the overall skill level of the population.

City Observatory, Talent & Prosperity: Education and Income. <http://cityobservatory.org/talent-and-prosperity/>

For individuals and communities, the more you learn, the more you earn, and the more likely you are to have a good job, keep a good job, and maintain family economic security.

FIGURE 12 Unemployment rate and weekly earnings by educational attainment, 2017

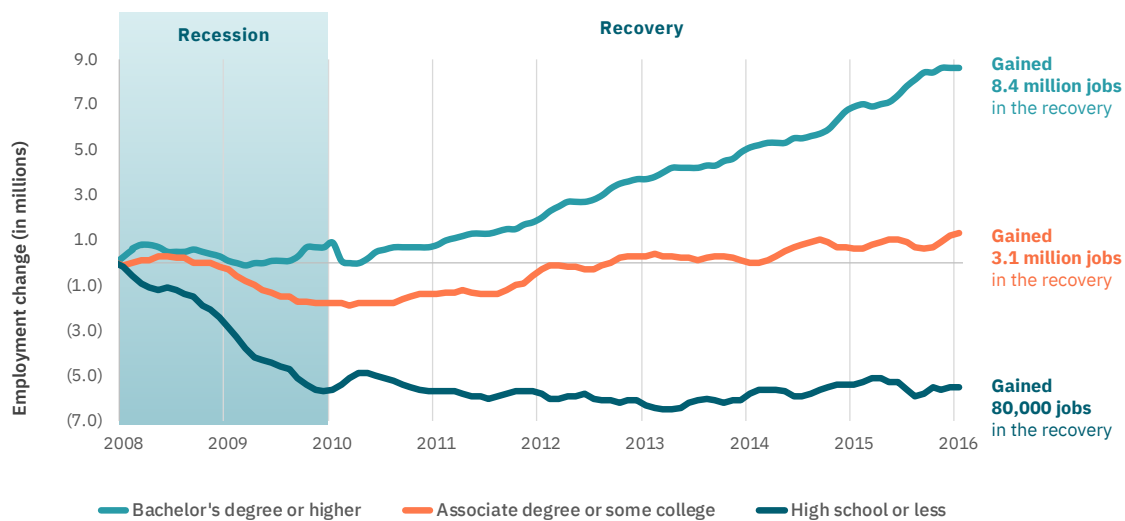


U.S. Bureau of Labor Statistics, Current Population Survey.

In “making the case” for greater postsecondary credential attainment in prior reports (see 2015’s *Reaching for Opportunity* at www.MiTalentGoal2025.org) we have leaned on the same compelling truths about the benefits of education past high school.

Individuals with a postsecondary credential have higher earnings, lower unemployment, and are more likely to get and keep a job even in a recession. As the figure below illustrates, individuals with a bachelor’s degree or higher gained jobs during the Great Recession, and have gained 8.4 million jobs during the nation’s economic recovery; those with an associate degree or some postsecondary experience gained 3.1 million jobs during the nation’s economic recovery; those with an associate degree or some postsecondary experience gained 3.1 million jobs during the nation’s economic recovery; those with an associate degree or some postsecondary experience gained 3.1 million jobs during the nation’s economic recovery.

FIGURE 13 Jobs gained and lost by education attainment level 2007-2016



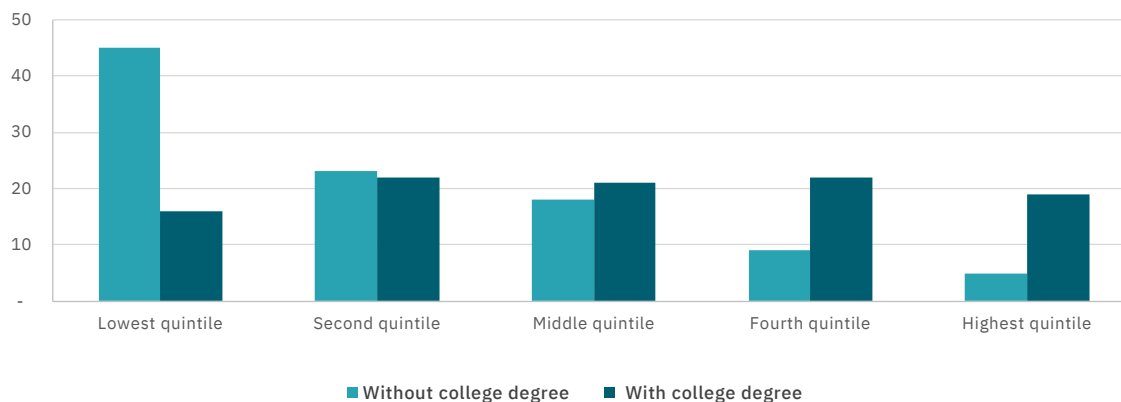
cew.georgetown.edu/cew-reports/americas-divided-recovery/#interactive

Higher education credential-earning is the most powerful and proven way to close gaps in income and support upward mobility. As illustrated here individuals from low-income backgrounds can and do move upward in earnings, armed with a postsecondary education.



FIGURE 14 Income quintile of adults born into lowest-quintile families, by postsecondary education

Without a postsecondary credential or degree, a child born into a poor family has little chance of breaking into the upper end of the income distribution.



Haskins, Ron. 2008. "Education and Economic Mobility." In *Getting Ahead or Losing Ground: Economic Mobility in America*, edited by Julia B. Isaacs, Isabel V. Sawhill, and Ron Haskins. Washington, DC: e Brookings Institution and the Economic Mobility Project.

There also are numerous additional benefits to the economy and society from helping more individuals to earn some form of valuable postsecondary credential:

- ▶ Individuals with a postsecondary degree, certificate or other valuable credential generate more economic growth, raising incomes for others.
- ▶ Individuals with education beyond high school are more likely to be taxpayers and have lower poverty and welfare rates, therefore are not a cost to society. They are more likely to be active citizens, vote more often, volunteer more, donate to charity, stay healthy and spend more time with their children.
- ▶ Individuals with a postsecondary credential are more likely to start a business and be an entrepreneur; communities with high rates of educational attainment see more new business start-ups and entrepreneurial activity.
- ▶ Improving postsecondary attainment provides a big return on the state investment that supports it.

Finally, a commitment to increase postsecondary credential attainment gives communities and Michigan a better brand – they are seen as serious about talent attainment. (Think of the success of the Kalamazoo Promise as an economic development strategy, and Detroit and Michigan's failure to lure Amazon!)



The Changing Nature of Work and Jobs

The economy is changing so fast it's disorienting. Today's jobs and projections about the nature of future jobs, suggest a transformation that requires more digital sophistication, technical skills, and other critical interpersonal and creative skills.

"Workers of the future will spend more time on activities that machines are less capable of, such as managing people, applying expertise, and communicating with others. They will spend less time on predictable physical activities and on collecting and processing data, where machines already exceed human performance. The skills and capabilities required will also shift, requiring more social and emotional skills and more advanced cognitive capabilities, such as logical reasoning and creativity."

—What the Future of Work Will Mean for Jobs, Skills and Wages, McKinsey, 2017

In Michigan, we once helped create the industrial economy and an education system built to support it. In this system, a certain number of people -- 20% or so of the population -- would be the professionals, the managers, the doctors, the lawyers, and teachers who needed a college education. For the 50% who did not pursue college, we built a big vocational education system, which served the premise that these individuals would learn specialized skills for an occupation they would commit to for the rest of their lives. And for others, we provided a general education track to offer basic skills for life, work, and a high school diploma.

A second great revolution in our economy has occurred that has transformed the workplace from the industrial era. We have seen the rise of the microchip and the computer. Global trade and transportation, and modern communication technologies, have allowed much

FIGURE 15

Occupations

There has been a large decline in low-skill jobs that require a high school education or less.

There has been a substantial growth in managerial and professional jobs requiring college degrees.

Georgetown University Center on Education and the Workforce, "The Economy Goes to College" 2015

routinized low-skill work to be done cheaper elsewhere, or increasingly, automated and performed by computers and robots. Today, more and more of our work is manipulating ideas, data, information, in fast-changing teams and projects, and done in front of, or with help of a computer whether in an office, hospital, farm, factory, or classroom.

At one time, the majority of jobs and workers were doing some form of routinized work. Today, with the rise of the information age and knowledge revolution, workers in advanced economies mostly are doing knowledge work –over 60% of people in high-wage countries. And, growing, new jobs that pay well enough to raise a family and plan for the future involve some form of knowledge work that requires advanced learning and credentials.

“Since 2011, the US economy has added 11.5 million jobs for workers with education beyond high school but only 80,000 jobs for those with high school diploma or less.”

—America’s Divided Recovery, Georgetown University

In an economy that continues to change with increasing speed, whole new occupations are created almost overnight (think web designer, app-maker) while other occupations disappear at the same speed (think travel agent, personal secretary). McKinsey’s analysis suggests that innovation and economic growth will create many new jobs, but globally:

“75 million to 375 million workers may need to switch occupational categories and learn new skills. And for advanced economies like the US, the share of the workforce that will need to learn new skills and work in new occupations is much higher: up to one third of the 2030 workforce in the US.”

—What the Future of Work Will Mean for Jobs, Skills and Wages, McKinsey, 2017

“Of the new full-time jobs that are appearing, many are so-called hybrid jobs that require technological expertise in programming or data analysis alongside broader skills. Fifty years ago, no one could have imagined that user-experience designer would be a legitimate profession, but here we are. Clearly, work is changing.”

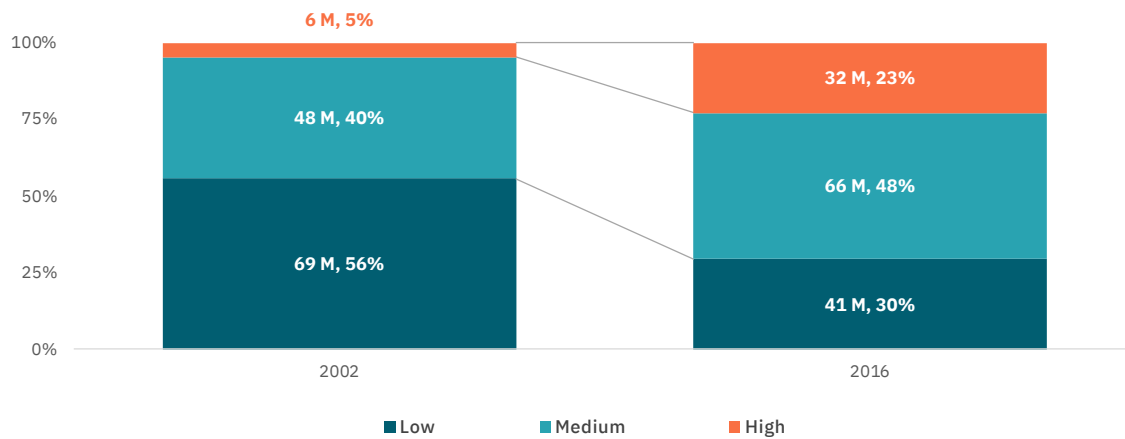
—Northeastern University President Joseph Auon, We Need to Retool Higher Ed to Defeat Robots

The share of jobs requiring high- or mid-levels of digital or computer skills has accelerated rapidly in the last 15 years.



FIGURE 16 Employment by levels of job digitization

Years 2002 and 2016

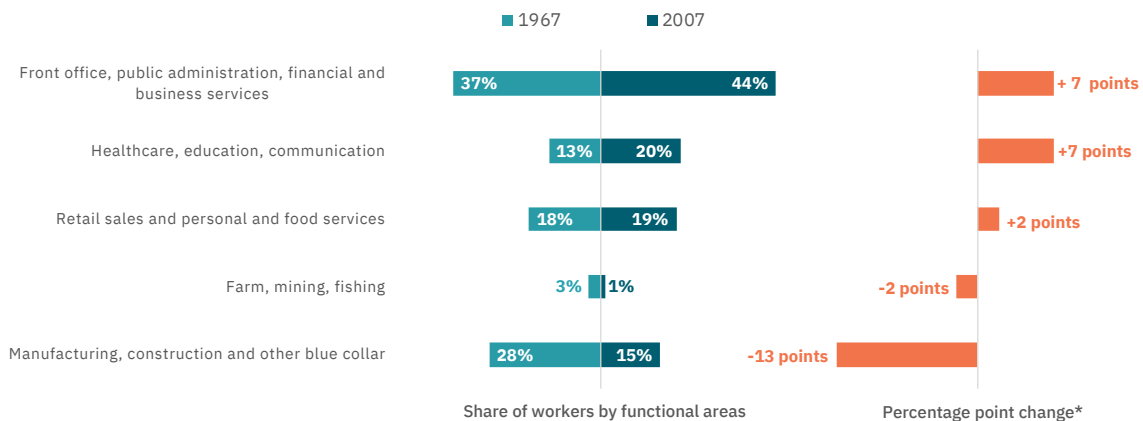


Brookings analysis of O*NET and OES data

Analysis from the Center on Work and Learning at Georgetown University confirms the dynamic that high-skill jobs are increasing, middle-skill jobs are changing, and low-skill jobs are declining.

FIGURE 17 Share of workers by functional areas

Between 1967 and 2007, the share of manual labor workers declined from 28 percent to 15 percent, while the share of high-skill services workers increased from 13 percent to 20 percent.



Georgetown University Center on Education and the Workforce, "The Economy Goes to College: The Hidden Promise of Higher Education in the Post-Industrial Service Economy."

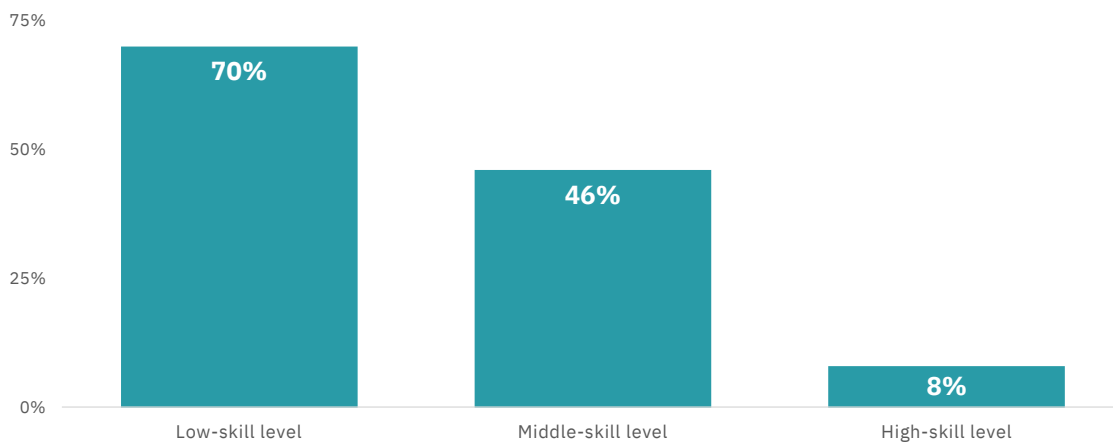
“The shift in America’s workforce has not been from factories to fast-food outlets. Rather the key growth in US employment has come in offices and non-office settings like hospitals and schools that provide higher skill services: nearly two-thirds of Americans now work in these higher-skill workplaces...”

—Anthony Carnevale and Stephen Rose, *The Economy Goes to College: The Hidden Promise of Higher Education in a Post-Industrial Service Economy*

Only those with the skills to adapt to a fast-changing economy and workplace will survive a rapidly automating employment landscape.

FIGURE 18 Low-skill jobs at greatest risk of automation

Percentage of jobs, by skill level, at a high risk of being automated in 20 years.



USA TODAY analysis of data from Carol Benedikt Frey and Michael A. Osborne, authors of “Future of Employment” and EMSI/ CareerBuilder. Frank Pompa and MaryJo Webster, USA TODAY.

In today’s economy there are fewer sure career ladders, no lifetime employment, and everyone is a “free agent” in a contingent employment labor marketplace. And the better metaphor for career progression is “rock climber,” versus the ascension of a predictable career ladder. To succeed as career rock climbers, everyone must have the skills, abilities, and networks to stay on the cliff face, spot the next crevice or new occupation and employment opportunity, be able to learn or earn the credential or skills needed to grab it—and not fall off the cliff.

Clearly, this economic reality demands a different talent preparation system than the one built in the 20th century.



The Credentials and Skills Needed Today and Tomorrow

When compared to the last-generation economy, the dynamic reality of today's knowledge-based economy and workplace drive a very different understanding of the necessary education and skills.

This new education model was first described by business guru and industrial scientist Peter Drucker, who coined the terms “knowledge work” and worker. Drucker described the education and skills the knowledge worker needed. As he put it: “We are moving from the era of the blue collar industrial worker to one dominated by a growing class of technologists (computer and medical technicians, engineers, educators and market researchers).” Drucker describes the need for a facility for “flexible specialization”—the ability to understand various career and work contexts, to learn and apply highly specialized skills and move rapidly from one job to another—from market research to management, from nursing into health administration, from appliance repair to small business entrepreneur.

What does this mean for the education we have to provide now for the economy of today and tomorrow? Several things:

- ▶ **We must provide learners with exposures, insight and knowledge about the varied contexts of work and possible careers throughout their educational path:** how academic and technical skills are applied in work and life; what career opportunities exist, and knowledge about the steps to be taken to pursue various fields—so career interests and aptitudes are explored and continuously refined.
- ▶ **Everyone needs a solid foundation in generalized skills—** solid competency in math, reading, the use of history to inform insight, the scientific method.
- ▶ **Everyone also needs critical skills—**what some have labeled soft skills, soft skills, new basic skills, 21st Century skills, or more recently labeled the six C's: Skills such as

critical thinking and problem-solving, collaboration and teamwork, creativity, confidence, and grit –the skills you need to keep learning and remain competitive in the career field.

- ▶ **Everyone needs to learn, and learns best, when academic and foundational discipline skills (reading, writing, science), and the critical new-basic skills (problem-solving, teamwork) are taught in contexts–** contexts which can vary greatly while still being powerful and effective. Learning can be organized through project-driven classes and applied coursework, or out in a work-world context; or organized in a STEM, arts, or financial-themed program. This learning is consistent with how individuals will spend their lives: learning and learning anew—finding a new path in a new context, while adding real value if they wish to be paid.
- ▶ **Everyone needs open-ended, non-terminal learning programs.** Yes, you can train someone on the job to be a machinist or an electrical power-line installer/repair person (two of Michigan’s Hot 50 high-demand, high-wage jobs today)—but as the movie “Hidden Figures” shows so vividly, the job of brain-powered computer today will give way to technology tomorrow. The education system must make sure every individual has facility to pursue lifelong learning; to become the person maintaining or programming the machine, or designing and building the next version!

The knowledge economy particularly rewards those who put the technical and critical soft skills together - the innovators - the ones with a new creative approach to a product, problem, or issue. Think of the computer scientist and liberal arts aesthete Steve Jobs. Think of the artist who designed the car you drive or the phone in your pocket. Think of the anthropologists who helped stop the Ebola epidemic. Or think of the technology innovators who explore how people will want to communicate in the future, so they can make the new device.

This education system for the future can be seen in varied contexts, such as those that “co-op” schools offer in higher education: where work experiences are integrated with rigorous academics. It can be seen in apprenticeship programs, traditional liberal arts institutions, or applied math, physics, business, or education programs. This learning system can be seen at the secondary school level in an International Baccalaureate program, a Fine Arts or Financial Services Career Academy, STEM or rigorous CTE-themed high school program. All bring together rigorous training in academic disciplines (whether engineering, education, public policy, math or science) with robust application and learning in the context of work and social applications.

The new paradigm for education also suggests embracing a “more learning is better” understanding. Not only do higher levels of formal education correspond to where good, well-paying jobs are and will be tomorrow– higher levels of formal postsecondary education are also more likely to deliver the combination of generalizable and critical skills, with application in a variety of specialized contexts demanded in the workplace of today and tomorrow.

Yes, as many are pointing to today, there are good jobs out there for which an apprenticeship, on-the-job-training or a postsecondary career-technical credential or certificate is all that is needed. But bear in mind 43 of Michigan’s Hot 50 “high demand, high wage” jobs of today require some postsecondary credential, and 36 require a bachelor’s degree or higher. This trend rewarding higher levels of postsecondary credentialing is accelerating.

TABLE 1

Michigan's Hot 50– Tomorrow’s high demand high-wage careers

Job outlook through 2026

Michigan's demand occupations	Projected annual job openings	Hourly wage range	Percent job growth, 2014-2024	Education and training beyond high school
Accountants and Auditors	3,520	\$25 - \$42	9.4%	Bachelor's degree, license
Administrative Services Managers	630	\$35 - \$55	9.4%	Bachelor's degree, plus work experience
Architectural and Engineering Managers	800	\$51 - \$74	9.0%	Bachelor's degree, plus work experience, license
Carpenters	2,600	\$16 - \$28	7.5%	Apprenticeship, license
Child, Family, and School Social Workers	1,570	\$19 - \$28	13.6%	Bachelor's degree, license
Civil Engineers	860	\$30 - \$45	16.8%	Bachelor's degree, license
Commercial and Industrial Designers	740	\$28 - \$46	7.9%	Bachelor's degree
Computer and Information Systems Managers	830	\$46 - \$73	12.3%	Bachelor's degree, plus work experience
Computer Systems Analysts	1,200	\$31 - \$49	8.5%	Bachelor's degree
Computer User Support Specialists	1,790	\$17 - \$29	11.0%	Some college, no degree
Construction Managers	540	\$33 - \$56	9.9%	Bachelor's degree, plus moderate-term OJT
Dental Hygienists	770	\$27 - \$34	20.0%	Associate's degree, license
Education Administrators, Postsecondary	630	\$34 - \$66	10.6%	Master's degree, plus work experience
Educational, Guidance, School, and Vocational Counselors	880	\$19 - \$33	15.2%	Master's degree, license

TABLE 1 (Continued)

Michigan's demand occupations	Projected annual job openings	Hourly wage range	Percent job growth, 2014-2024	Education and training beyond high school
Electrical Engineers	780	\$33 - \$50	13.5%	Bachelor's degree, license
Electricians	2,580	\$20 - \$35	6.8%	Apprenticeship, license
Elementary School Teachers Except Special Education	2,840	\$22 - \$30	5.6%	Bachelor's degree, license
Financial Managers	1,460	\$40 - \$72	18.3%	Bachelor's degree, plus work experience
General and Operations Managers	5,760	\$33 - \$74	8.8%	Bachelor's degree, plus work experience
Health Specialties Teachers, Postsecondary	730	\$36 - \$82	25.4%	Doctoral or professional degree
Healthcare Social Workers	800	\$22 - \$31	18.7%	Master's degree, plus internship, license
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,020	\$17 - \$29	13.7%	Postsecondary nondegree award, plus long-term OJT, license
Heavy and Tractor-Trailer Truck Drivers	6,870	\$16 - \$24	9.7%	Postsecondary nondegree award, plus short-term OJT, license
Human Resources Specialists	1,600	\$21 - \$36	7.3%	Bachelor's degree
Industrial Engineers	2,200	\$34 - \$51	18.2%	Bachelor's degree, license
Industrial Machinery Mechanics	1,840	\$19 - \$30	10.0%	Long-term OJT
Insurance Sales Agents	1,410	\$17 - \$38	9.9%	Moderate-term OJT, license
Lawyers	940	\$33 - \$67	7.3%	Doctoral or professional degree, license
Licensed Practical and Licensed Vocational Nurses	1,420	\$20 - \$26	10.4%	Postsecondary nondegree award, license
Market Research Analysts and Marketing Specialists	2,080	\$21 - \$40	24.0%	Bachelor's degree
Marketing Managers	450	\$42 - \$77	11.5%	Bachelor's degree, plus work experience
Mechanical Engineers	3,160	\$34 - \$53	15.2%	Bachelor's degree, license
Medical and Health Services Managers	1,180	\$35 - \$61	18.1%	Bachelor's degree, plus work experience
Nurse Practitioners	350	\$43 - \$55	34.3%	Master's degree, license

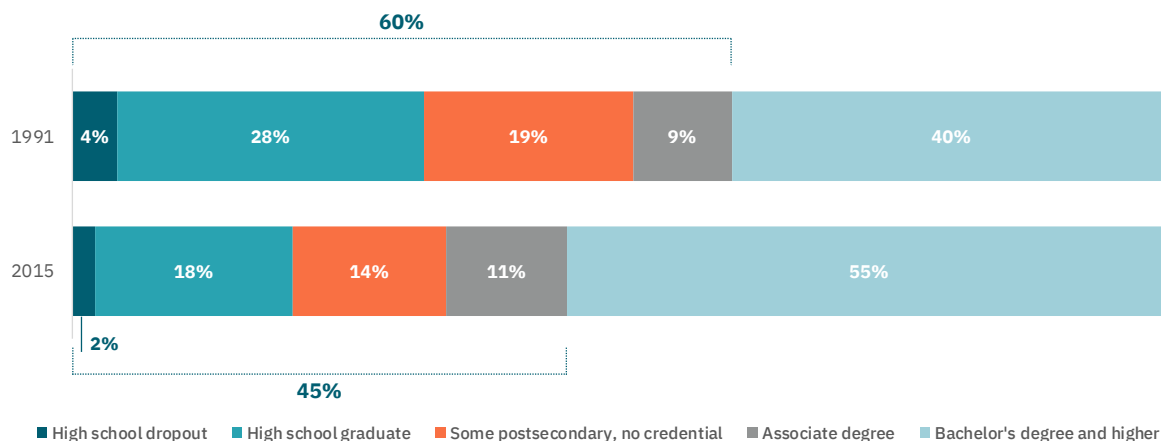
TABLE 1 (Continued)

Michigan's demand occupations	Projected annual job openings	Hourly wage range	Percent job growth, 2014-2024	Education and training beyond high school
Occupational Therapists	380	\$31 - \$45	22.9%	Master's degree, license
Paralegals and Legal Assistants	730	\$19 - \$29	14.5%	Associate's degree
Personal Financial Advisors	530	\$26 - \$72	15.1%	Bachelor's degree, plus long-term OJT, license
Physical Therapist Assistants	630	\$20 - \$30	30.7%	Associate's degree, license
Physical Therapists	630	\$35 - \$48	27.4%	Doctoral or professional degree, license
Physician Assistants	440	\$43 - \$58	37.8%	Master's degree, license
Physicians and Surgeons	540	\$29 - \$100+	9.8%	Doctoral or professional degree, plus residency, license
Plumbers, Pipefitters, and Steamfitters	1,620	\$22 - \$36	12.7%	Apprenticeship, license
Police and Sheriff's Patrol Officers	1,330	\$22 - \$33	6.6%	Moderate-term OJT
Registered Nurses	6,650	\$28 - \$38	13.5%	Bachelor's degree, license
Sales Managers	1,000	\$44 - \$78	7.0%	Bachelor's degree, plus work experience
Sales Representatives, Except Technical and Scientific Products	5,680	\$20 - \$43	2.9%	Moderate-term OJT
Social and Community Service Managers	550	\$26 - \$38	16.3%	Bachelor's degree, plus work experience
Software Developers, Applications	2,160	\$33 - \$53	31.0%	Bachelor's degree
Software Developers, Systems Software	1,000	\$33 - \$52	15.2%	Bachelor's degree
Training and Development Specialists	690	\$20 - \$36	12.4%	Bachelor's degree, plus work experience

DTMB, Bureau of Labor Market Information and Strategic Initiative. www.michigan.gov/lmi

FIGURE 19 Share of good jobs by educational attainment

Between 1991 and 2015, the share of good jobs doing to workers without a bachelor's degree fell from 60 percent to 45 percent.



Georgetown University Center on Education and the Workforce analysis of "Current Population Survey Annual Social Economic Supplement (March), 1992-1996."

What is the bottom line about education and skills that everyone needs for success in the economy of today and tomorrow? According to Mark Tucker, who examined successful education systems across the globe, it suggests winning states and countries must aim high for everyone:

"Only those that can offer the world's highest skill levels and the most creative ideas will be able to justify the world's highest wages. Very high wage nations must now abandon the idea that only a few of their citizens need to have high skills and creative capacities. This is a new idea in the world, the idea that all must have an education formerly reserved only for elites."

—Mark Tucker, *Standing on the Shoulders of Giants, An American Agenda for Education Reform*



Training in STEM and technically demanding disciplines like engineering and computer science certainly provide rewards in the form of good-paying jobs and the increased likelihood of successfully navigating a changing labor market. But our understanding of the new economic realities has to also appreciate that these are not the only arenas, nor the only skills that allow one to add value, and get a good job—even in the most technical workplace.

As reported in [The Surprising Thing Google Learned About Hiring](#):

“Sergey Brin and Larry Page, both brilliant computer scientists, founded their company on the conviction that only technologists can understand technology. Google set its hiring algorithms to sort for computer science students with top grades from elite science universities. In 2013, Google decided to test its hiring hypothesis. Project Oxygen shocked everyone by concluding that, among the eight most important qualities of Google’s top employees, STEM expertise comes in dead last. The seven top characteristics of success at Google are all soft skills: being a good coach; communicating and listening well; possessing insights into others (including others different values and points of view); having empathy toward and being supportive of one’s colleagues; being a good critical thinker and problem solver; and being able to make connections across complex ideas. Those traits sound more like what one gains as an English or theater major than as a programmer. Google changed their algorithms.”

—Washington Post, December 20, 2017

Finally, our expectations for our learning system must evolve from preparing people for a “job,” to preparing people for a career and life with the skills to create their own opportunities and adapt to change—including changes in occupations. In order to give everyone these abilities, learners of today should meet high standards and expectations in basic academic and discipline knowledge. All need the new critical thinking, creativity, communication and problem-solving skills. Everyone needs to learn in one of many different open-ended applied learning and career contexts.

Michigan needs to equip many more of our people with valuable postsecondary credentials – both occupation-specific technical credentials and traditional higher education degree and advanced degree programs. All are needed by our employers; all will help us grow our economy; and most importantly, all can equip our people with the skills and ability to get and keep a good job.

Michigan needs a total commitment to talent - talent which is largely prepared at our public and independent colleges and universities. If we as a state commit to this vision, we will both allow our own people to thrive in a changed economy, and we will attract others to join us. Grand Rapids’ and Detroit’s bids for Amazon headquarters fell short in part, because Amazon was concerned that the current talent base in these communities, and their commitment to prepare future talent, was insufficient.

FIGURE 20



Fourteen years ago bi-partisan stakeholders –business, higher education, education, labor, government– came together and made recommendations to increase postsecondary credential attainment and leverage Michigan’s higher education institutions for economic growth.

Leading to some major changes:

- | | |
|---|---|
| ▶ Michigan Merit Curriculum and Assessment | ▶ Expansion of Early/Middle Colleges/CTE |
| ▶ Michigan Merit Scholarship | ▶ Michigan Transfer Agreement |
| ▶ Michigan Promise Zones | ▶ No Worker Left Behind Adult Worker Training Program |
| ▶ Michigan College Access Network | ▶ 21st Century Innovation Fund |
| ▶ CEPI extended to Longitudinal Performance Data System | |

Michigan, our communities, and within very different regional labor markets, must and can accelerate their efforts to lift their populations to opportunity and success in the economy of today and tomorrow. This can be done by increasing their postsecondary credential attainment as far as each person can and wants to go.



Michigan's March to Build Talent

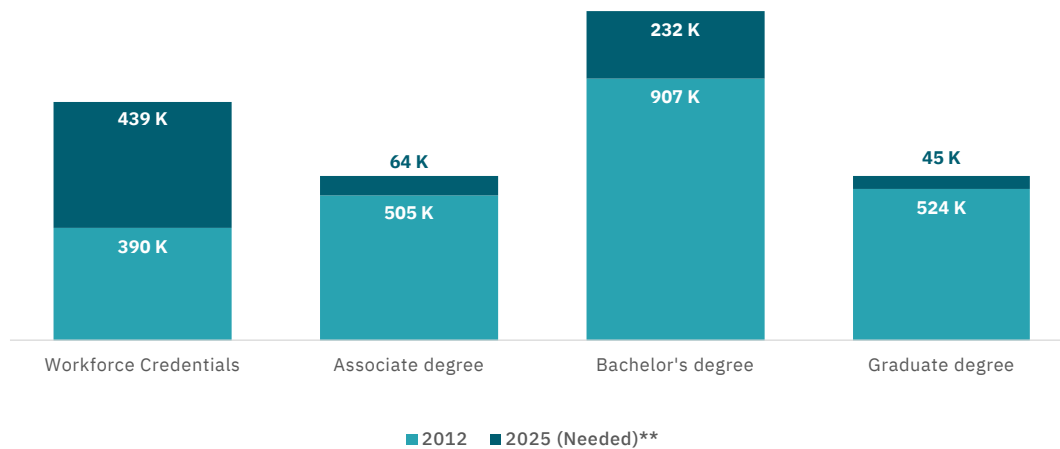
In 2004, Michigan's leaders came together in the Governor Granholm-appointed Cherry Commission to set a goal and move strategies to double the number of higher education credential holders, and leverage new jobs and innovation out of our rich college and university base. At the time, a key priority was to begin changing the culture of expectation around education in Michigan—no longer was a high school diploma a ticket to family-sustaining work. All Michigan citizens needed a postsecondary credential of some form to participate in Michigan's changing economy. Out of this Commission came a number of important recommendations and policy changes.

Four years ago this agenda was revisited. Leaders again came together to take stock and update a blueprint to accelerate postsecondary credential attainment. A Postsecondary Credential Attainment Workgroup of key stakeholders once again benchmarked our postsecondary credential attainment against leading states and labor market demands. At that time Michigan lagged behind the top 10 states for credential attainment and was several points below the national average.

We examined our demographic changes and our varied rates of postsecondary credential attainment, by labor markets, and by income and race. We set a goal of 60% of Michigan citizens by 2025 achieving postsecondary credentials that matter to success in the labor market—and that would put us among the top 10 states.



FIGURE 21 Michigan's 2012 targets to match the top 10 states in credential attainment by 2025



U.S. Census Bureau 2012 American Community Survey

To guide our strategies and policies to achieve this goal we mapped where we stood on key benchmarks of progress that affect the likelihood of ultimately earning a postsecondary credential: postsecondary academic readiness among high schoolers; the need for developmental education in college; access and enrollment rates in college among adults and high school graduates; as well as the share of young people taking and earning postsecondary credits while in high school. We looked at how we were doing to help those who did enroll stay at it, and complete a degree or credential—including examining important performance gaps among subsets of our diverse Michigan population.

Informed by this hard look, we named and organized around research-tested high yield strategies for moving the needle and enhancing postsecondary credential achievement in Michigan.



Progress on Policy Priorities

In the 2015 *Reaching for Opportunity* Report we made recommendations, and began to move strategies that would pay dividends in the form of moving more youth and adults to success in two areas: *Postsecondary Participation*, creating conditions that increase dramatically education and credential earning; and *Postsecondary Completion and Success*; seeking to dramatically increase the number of youth and adults who are engaged in postsecondary learning who successfully complete work-world valuable postsecondary credentials.

And we committed to work together, now as an ongoing Michigan Higher Education Attainment Roundtable (MIHEART)—to keep pressing on this important agenda, and periodically take stock, regroup and refocus our efforts.

Since that time members of MIHEART have worked with their members and constituencies on priority initiatives, and worked together in shared advocacy for budget and legislative solutions. These efforts have moved many of the high priority initiatives forward, and made important progress in better guiding and supporting to success our learners, and making our education and higher education system work more efficiently and effectively. Major successes have been achieved in:

ACCELERATED HIGHER EDUCATION CREDIT EARNING

When high school students, from those at-risk to high-achievers participate in any form of early postsecondary experience from taking an AP course to classes on a university or college campus research shows it increases their likelihood of going on to higher education learning and earning a credential. And programs that include dual enrollment, early and middle colleges, concurrent enrollment and articulated CTE programs— speed learners to higher education credential earning taking less time and spending less money. Michigan has seen growth in these programs. From 2013 to 2017 the number of early college programs has grown 70% to 135 programs and schools enrolling 11,200 students. During the same time frame those participating in dual enrollment programs from less than 20,000 to almost 30,000. Aggressive promotion from the Snyder Administration has expanded CTE enrollments by 5,000 high school students to 34%. Stakeholders including the K-12 education and higher education organizations are working together to promote expansion of these programs, and helping educators learn how they can be developed and run on a financially sustainable model. Still the promise of these programs remains unfulfilled until significant financial and procedural barriers are removed.

Career Development

Enhanced College and Career Education Development Plans (EDPs), newly proposed Talent Portfolios, and Career Exploration efforts in our schools; some accomplished by Michigan Department of Education (MDE) Administrative actions, some codified in a package of bills passed by the legislature in 2018.

Counselor Training and More Counselors

Passed important Legislation in 2017 to improve training and College and Career guidance abilities of Michigan School Counselors. The Administration and Legislature committed \$1 million in budget to support this priority in 2017-18. The 2018-19 budget recently approved includes \$10.5 million to hire dedicated career navigators in high schools, that will supplement the work of school counselors. The Michigan College Access Network (MCAN) organized additional philanthropic and state dollars to place college advisers in high-need schools to boost efforts.

COLLEGE & CAREER COUNSELING

On November 8, 2017 Governor Rick Snyder signed legislation Public Act 151 of 2017, to give Michigan students improved access to college and career counseling. "Education is not a one-size-fits-all approach," said Rep Brett Roberts, the bill's sponsor. "This bill gives school counselors all of the tools they need to guide students toward the career that suits them best."

Counselors are currently required to dedicate 150 hours of professional development over a five-year period to remain certified by the state of Michigan. The legislation sets a standard that 50 of the 150 hours be dedicated to career and college guidance including five hours on military-based opportunities.

Patrick O'Connor, assistant dean of college counseling at Cranbrook Kingswood School in Bloomfield Hills and past president of the National Association for College Admission Counseling said: "HB 4181 will give school counselors the information they've asked for that will keep them on top of the latest career and college trends in Michigan. Inclusion of this counselor-specific professional development will help students create bright futures that will be based on their best talents, all while advancing Michigan's economy."

New Tools for College and Career Guidance

Governor Snyder proposed and the Legislature approved in the 2017-2018 budget new funding to expand the use of MI Bright Futures, and Career Cruising for K-12 students.

Enhanced High School Postsecondary Credit Earning Programs

The State has increased funding by \$8 million a year in recent year budgets to expand early colleges. Stakeholders also worked to promote models for dual enrollment and concurrent enrollment and other forms of valuable early postsecondary credit taking and earning, contributing to an expansion of enrollments by over 12,000 students in recent years.

Early postsecondary credit taking and earning was also made an important component of Michigan's K-12 schools public accountability and reporting system, And the move to the SAT and expanding use of College Board guidance and planning tools, and enhanced state funding beginning in the 2017-2018 budget by \$.75 million to support student AP test-taking has increased participation and provided support for accelerated credit earning.

Career-Technical Education (CTE)

Governor Snyder, The Talent and Economic Development Department of Michigan (Ted) and Department of Education (MDE) launched the Career Pathways Alliance to enhance CTE programs– initiatives that are now being implemented as part of the Marshall Plan for Talent. A “Going PRO” public education campaign worked to increase awareness of opportunities in Professional Trades and CTE. The State increased CTE funding (including a \$10 million increase in added cost funding, \$12.5 million in competitive and non-competitive equipment grants that incorporated \$.5 million for the Mechatronics competitive equipment grants program beginning in 2017-18 budgets). These efforts have contributed to an increased participation in high quality CTE programs by 5,000 Michigan students – raising the share of students enrolling in CTE from 32% to over 34%.

College Access

The State continued its \$3 million annual budget for successful MCAN/LCAN efforts that have contributed to increased College Access around the State, particularly among first time College-going students.

Student Success

The Michigan Center for Student Success (MCSS) continues to work with community colleges in the state to increase student success at completing their program of study and earning valuable credentials. The Michigan Association of State Universities (MASU) also hired staff to support best-practice credential completion initiatives among its members —ensuring “enrollees” become “completers” of credentials.

STUDENT SUCCESS STRATEGIES

Michigan's Community Colleges, Universities and Independent Colleges have ramped up work in recent years to ensure students who enroll complete a valuable credential.

Since 2011, the MCCA has supported the Michigan Center for Student Success (MCSS). The MCSS has offered support to community colleges in their efforts to improve student success and degree completion through projects to increase college readiness, implement developmental education reforms in English and mathematics, improve transfer student success, effectively serve student veterans, and improve institutional practices that support student success. Beginning in 2016, the Michigan Association of State Universities (MASU) developed a corollary effort under a new Director of Student Success to enhance and spread best practices in institutional student success strategies including enhanced counseling services and innovative financial practices such as “completion grants”.

RIGHT MATH @ THE RIGHT TIME

In early 2016, the Michigan Community College Association and the Michigan Association of State Universities, established The Right Math at the Right Time Task Force to strengthen the implementation of math pathways across Michigan's two- and four-year postsecondary institutions. The work first aligns the learning outcomes for gateway courses to ensure transferability. A second strand seeks to reduce the need for developmental education courses by integrating developmental and credit-earning course work, and lining up only the content courses students need for future study.

Michigan Transfer Improvement

The Michigan Association of State Universities (MASU), the Michigan Community College Association (MCCA) and the Michigan Independent Colleges and Universities (MICU) are working together with an approved \$1 million budget item in 2017-18 to improve and to guide students on transfer credit acceptance. Michigan's Community Colleges and Universities are implementing Guided Pathway Programs, and working together on innovations in developmental education to increase transfer efficiency.

IMPROVING TRANSFER OF CREDITS

Michigan lags behind peer states in the percentage of students who transfer with an associate degree (National: 34%, Michigan: 24%) and community college transfer students who earn a bachelor's degree (National: 42%, Michigan 37%). MCCA and MASU have been working together, joined by MICU, to improve transfer student outcomes. In 2014, Michigan community colleges and universities adopted the Michigan Transfer Agreement (MTA) which allows students to transfer 30 credit hours of general education coursework from college to the university. In fall 2016, Michigan community colleges and universities established a statewide Transfer Steering Committee, with representatives from more than 30 colleges and universities. The goal is to increase associate and bachelor's degree completion among transfer students from all backgrounds through strategies including:

- ▶ Replacing the Michigan Transfer Network
- ▶ Developing multi-institutional associate to bachelor's degree transfer pathways
- ▶ Aligning mathematics requirements within programs of study
- ▶ Increasing awards of academic credit for military experience
- ▶ Spotlighting best practices to improve transfer student success
- ▶ Producing and utilizing data on transfer student outcomes

In July 2017, Governor Rick Snyder signed the FY 2018 state budget which included a one-time \$1.1 million appropriation to support this statewide initiative to replace the Michigan Transfer Network (MTN).

In the original Reaching for Opportunity report released in 2015, the Work Group recommended that Michigan maintain our effective college access infrastructure through continued or expanded support for the Michigan College Access Network. In recent years, the legislature has appropriated \$3 million in state funding – up from the \$2 million in funding appropriated since FY2013. This investment has leveraged another \$3 million in non-state funds each year, truly making MCAN a public-private partnership.

MCAN is a statewide nonprofit intermediary that mobilizes state and local leaders to increase college readiness, enrollment, and completion rates. Its efforts are aligned to the big goal outlined in this report – to increase Michigan’s postsecondary credential attainment rate to 60% by 2025. MCAN accomplishes this goal through advocacy, building capacity/infrastructure, convening, developing partnerships, disseminating research and data, and investing.

Despite only being eight years old, MCAN has built a strong nonprofit organization under the leadership of founding executive director Brandy Johnson and with the strong support of both former Governor Jennifer Granholm and current Governor Rick Snyder. The organization has grown from one staffer with a \$1 million budget to a team of 13 and a \$7 million budget. MCAN is a national leader in the college access field.

Since 2010, MCAN has amassed several accomplishments to help move our state closer to Goal 2025, including:

- ▶ Launched and supported 32 Local College Access Networks in communities across Michigan, fostering local cross-sector engagement in college access efforts
- ▶ Placed 56 well-trained, near-peer college advisers in 70 high schools across Michigan through the AdviseMI program. These advisers supplement schools counselors by helping students navigate postsecondary education options, apply to colleges, complete the FAFSA, secure financial aid, and enroll in higher education institutions that will serve them well.
- ▶ Designed and hosted statewide initiatives to promote college application and enrollment including Michigan College Month and College Decision Day.
- ▶ Developed and administered grant programs including the Reach Higher High School grant, which has supported 117 high schools in using data to strategically implement programs and drive system-level change to improve postsecondary outcomes.
- ▶ Implemented professional development for school counselors. More than 500 school counselors have completed MCAN’s professional development course.
- ▶ Advocated for policy reforms that expand postsecondary opportunities for Michigan students. Hosted the round table of key stakeholders to write and refresh this report.
- ▶ Hosted an annual conference for eight consecutive years that have grown in participation every year, with over 500 attendees participating in 2018. College access leaders and practitioners across Michigan have an opportunity to collaborate, share best practices, and explore new opportunities to improve their shared work.

Moving forward under the guidance of a newly adopted strategic plan, MCAN is going to prioritize the following goals:

1. Fostering a college-going culture in Michigan
2. Identifying multiple postsecondary education pathways and facilitating smooth transitions
3. Improving college affordability
4. Supporting credential completion

Enhanced the State's CEPI Education-Workforce Performance Measurement Data System

Metrics have been improved and the system has been enhanced to provide additional information.

IMPROVING DATA INFRASTRUCTURE & ACCOUNTABILITY

In the original Reaching for Opportunity report released in 2015, the Work Group made several recommendations related to data infrastructure and accountability systems. Much progress has been made on these fronts, in large part due to the great work of the Michigan Department of Education (MDE) and Center for Educational Performance and Information (CEPI).

Reaching for Opportunity recommended that metrics related to college readiness, enrollment, and completion metrics be included in the high school accountability system dictated by the state. In April 2017, Michigan submitted its refreshed accountability plan pursuant to Every Student Succeeds Act (ESSA); in November 2017, Michigan's plan was approved by U.S. Secretary of Education Betsy DeVos. For the first time, Michigan's accountability system for high schools included metrics related to postsecondary access and success, including:

- ▶ Percent of students who enrolled in completed postsecondary coursework/credits while still in high school, whether earned through Advanced Placement, International Baccalaureate, Career and Technical Education, Early/Middle College, and Dual Enrollment.
- ▶ Percent of students who enrolled in a college (two- or four-year, public or private, in-state or out-of-state) within 12 months of high school graduation.

While the details of how the new accountability system will be implemented are still forming, these school-level data points (along with college persistence and completion rates) are available now on MDE's Parent Dashboard for School Transparency at <https://www.mischooldata.org/EssaDashboard/EssaDashboardHome.aspx>.

The Center for Educational Performance and Information has made huge leaps in terms of our state's data infrastructure, especially as it relates to postsecondary outcomes for Michigan high school graduates. Since the release of the Reaching for Opportunity report, CEPI now collects and reports valuable data related to postsecondary education readiness, enrollment, and completion – and all is available to educators, community leaders, elected officials, and parents in order to drive smarter decision-making. New reports available include:

- ▶ A **College Enrollment Destination** report, which shows which specific colleges and universities in which public high school students enrolled after graduation. This data will help K-12 leaders, counselors, and teachers in the re-evaluation of curriculum, counseling, and other outreach activities concerning college access.
- ▶ A **College Progression** by Graduating Class report, which shows how Michigan students are progressing in postsecondary education after high school graduation. This will help high schools understand their graduates' college enrollment and persistence patterns. Perhaps even more exciting, this report doesn't just capture degrees earned by graduates – it also includes certificates earned at institutions. What's more, the report also allows users to disaggregate data by gender, ethnicity, and socioeconomic status. This data can be viewed for the entire state or by intermediate school district, school district or public school academy, or individual high school.
- ▶ A **College Transfer** report, which shows the transfer patterns, demographics, and performance data for the students who transferred into or out of a Michigan college or university. This data can help higher education institutions better support student success.
- ▶ A **Postsecondary Success Rates** report, which shows the number of degree-seeking students who enter a Michigan community college or public university and achieve a successful outcome.

Marshall Plan for Talent

The Snyder Administration’s Marshall Plan approved by the Legislature in 2018 adds \$100 million to a number of existing talent development activities and locks-in multi-year funding for important career counseling and guidance enhancements (Career Navigators), financial-aid and scholarship enhancements for adults and youth (Talent for Tomorrow). The plan also begins the transformation of the instructional model toward a more robust curriculum, project- and competency-based, personalized learning model in which educators and employers work hand-in-hand in talent development. (Michigan.gov/marshallplan)

Collaboration to Support Higher Education Attainment

In 2016, the initial Postsecondary Credential Attainment work group that first convened in 2014, agreed to continue its collaboration. Renamed the Michigan Higher Education Attainment Roundtable (MIHEART) and hosted by MCAN, the group continues to work together as an ongoing collaborative to promote, advocate for, and guide policy changes that will improve our state’s postsecondary education and credential attainment levels. It intends to keep at this the work from Administration to Administration. MIHEART Members include the key stakeholders, who must collaborate in Michigan’s decentralized higher education system to promote increased postsecondary credential attainment.

FIGURE 22

MIHEART now includes key institutions and stakeholders committed to work together on an ongoing basis in our decentralized Michigan higher education to increase attainment of postsecondary credentials of workforce value.

- | | |
|--|--|
| ▶ Business Leaders for Michigan (BLM) | ▶ Michigan Department of Education (MDE) |
| ▶ Council for a Strong America | ▶ Michigan Department of Talent and Economic Development |
| ▶ Michigan Association of School Administrators (MASA) | ▶ Michigan Independent Colleges & Universities |
| ▶ Michigan Association of Secondary School Principals (MASSP) | ▶ Office of Governor Snyder |
| ▶ Michigan Association of State Universities | ▶ The Kresge Foundation |
| ▶ Michigan College Access Network (MCAN) | ▶ Detroit Regional Chamber of Commerce |
| ▶ Michigan Community College Association (MCCA) – Michigan Center for Student Success (MCSS) | ▶ Talent 2025 |

MIHEART is working with a number of stakeholders from within Michigan’s communities and prosperity regions—employers, K-12 and higher educators and workforce partners—who are taking ownership of this agenda to drive their local and regional talent attainment efforts, These stakeholders include:

- ▶ 10 Promise Zones, with five more forming now;

- ▶ Regional Attainment Hubs, including Detroit Drives degrees (SE Michigan) and Talent 2025 (West Michigan);
- ▶ 26 Local College Access Networks;
- ▶ 16 Career and Education Advisory Councils; and
- ▶ 16 Mi- STEM Education Advisory Councils.

Undone Business

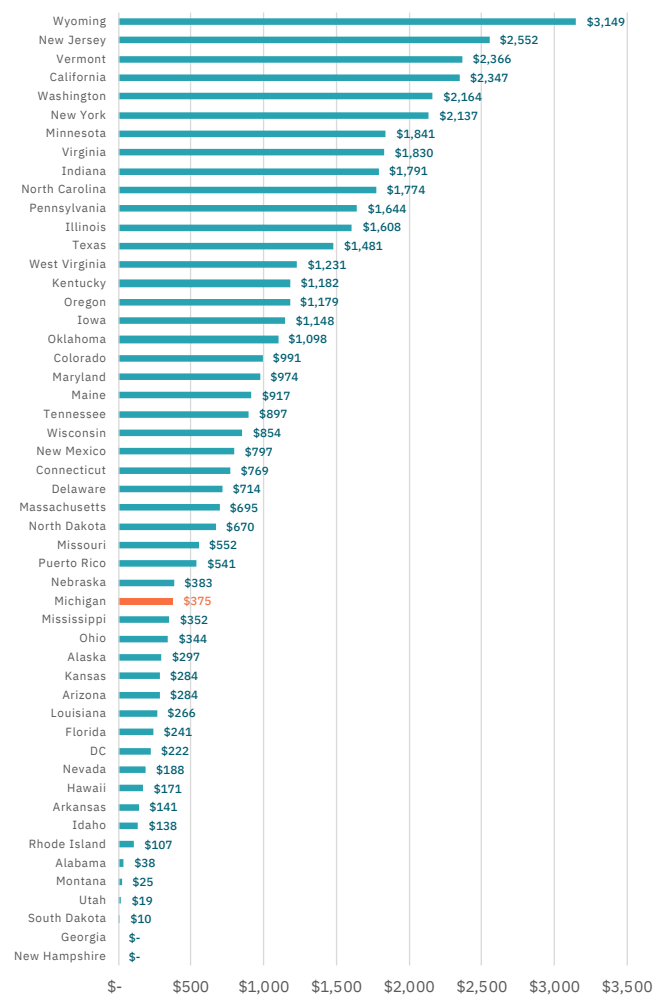
While most of the recommendations in Reaching for Opportunity have been implemented or seen significant progress, a number of important priorities are still unattended to or need much more action if we are to move the needle on postsecondary credential attainment.

State Support for Higher Learning

While need-based financial aid saw a 10% increase in state support in the 2017-18 budget, the \$17 million increase falls short of the more than \$400 million investment that would put Michigan among the top 10 states—states that make a more powerful commitment to ensure postsecondary education is accessible for all learners. Michigan now ranks 32nd in the nation in state support for needy students.

While state support for public university operations has increased 1-2 percent on average since 2012, total state support for public universities is down nearly 20 percent since 2001. During that time, appropriations from the state's General Fund, the major source for public university state support, is down over \$700 million as the state has diverted more and more General Fund to other priorities such as roads. This funding shell game hasn't provided a lasting solution for our roads and has shifted more of the burden for paying for college to parents and students.

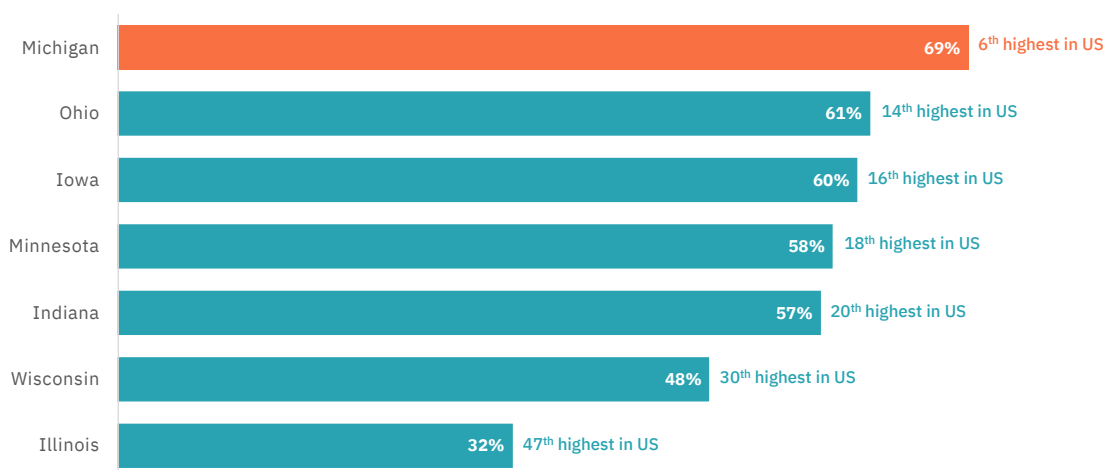
FIGURE 23 Michigan's Need-based undergraduate state aid vs. other states
Amount per in-state undergraduate student, 2015-2016



NASSGAP report, 2015-2016; IPEDS Enrollment 2014-2016

The reality is that while Michigan colleges and universities have been squeezing more performance and better outcomes out of education spending – the relative decline in investment by the state has meant: 1) Michigan’s community colleges can’t do all that is necessary to ensure credential-earning success for their diverse and often working-age adult populations, who face non-financial barriers to completion; and 2) Michigan’s universities can’t subsidize the costs of high quality education to students and families—resulting in a significant transfer of the cost of education onto individuals and families. The real and perceived cost of higher education deters many from pursuing it, and Michigan to lose more talent it needs.

FIGURE 24 Student/ Family share of college expenses

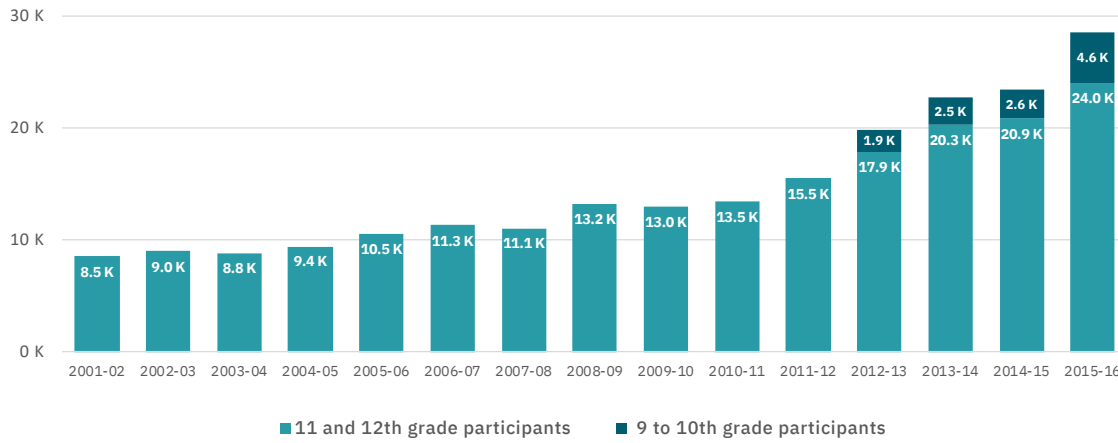


Michigan League for Public Policy

Early Postsecondary Credit Earning

While participation in powerful early postsecondary credit earning programs by high schoolers has increased by 12,000 students in recent years, the number remains far below the number of those who are eligible and those who would benefit (which is every student!). For example, currently of the more than 560,000 Michigan high school students, most eligible for dual enrollment, only slightly more than 30,000 participate. They are constrained in part by unattended financial disincentives. We are nowhere near our state’s goal of dramatically increasing participation in these powerful programs that both boost higher education credential attainment, and reduce the time and cost of education for learners and taxpayers.

FIGURE 25 Number of students participating in dual enrollment



*Note that the "Percentage of Eligible Students Participating" dropped in 2012-13 because the number eligible increased due to the first time inclusion of 9th and 10th grade students.

Michigan Department of Education 2015-2016, "Report to the House and Senate Fiscal Agencies and The Department of Technology, Management and Budget." Postsecondary Enrollment Options Act 160 of 1996 and Career and Technical Preparation Act 258 of 2000.

Adult Credentialing

Several good initiatives have aided adults already in the labor market to earn or convert their prior learning to valuable credentials (e.g. Project Win-Win, Credit When It's Due, and credit awarded for military experience). Michigan has 20.4% of the adults already in the labor market with some postsecondary experience, but without the benefit of gaining a postsecondary credential, certificate or degree. Michigan has the 5th highest share of adult workers lacking postsecondary credentials among states, well above the national average of 15.8%. This population remains the largest target for state policy action—if we are to move our overall postsecondary credential attainment rate upward.



FIGURE 26 Share of Michigan adults with some postsecondary, no credential vs. nation
Michigan has the 5th highest share in the nation



U.S. Census Bureau: <http://www.census.gov/programs-surveys/acs>, ACS 2016 1-year estimates



Taking Stock– Doubling Down on Talent Attainment

As we move through 2018 (an election year in Michigan), it is imperative that we once again take a hard look at where we stand in all attributes that are important to talent attainment – and at this moment reframe and aggressively promote an agenda for the future. An agenda that succeeds at equipping Michigan’s citizens with the skills, education and credentials they need to participate successfully in the economy, meet the needs of employers today and tomorrow, and be creators and successful adapters as the workplace continues to rapidly change.

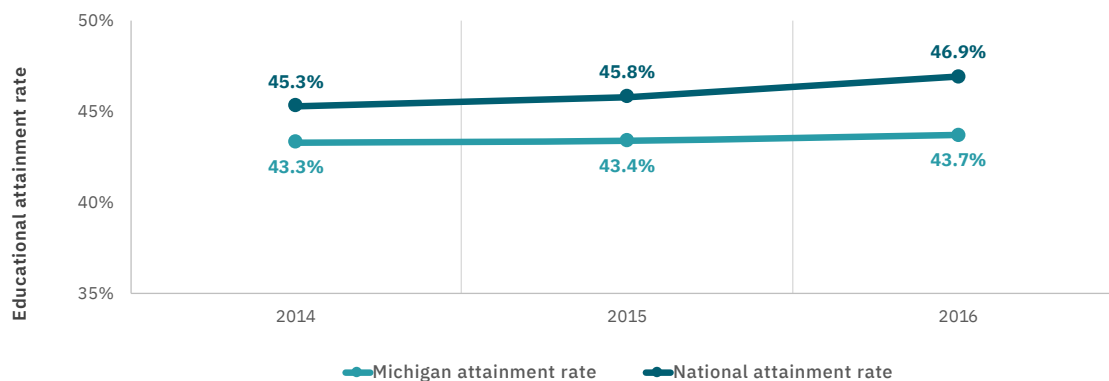
We need no more potent reminder of this imperative than the fact that despite hard work and progress of recent years, other states keep outpacing Michigan. And Michigan’s communities aren’t building and attracting the talent base to support our own fast-changing businesses, let alone be competitive locations for the Amazons of the world.

Today we must take a hard look at Michigan’s talent attainment and credentialing performance, based on metrics that matter and focus on progress toward and success at earning postsecondary credentials.

In recent years we have increased the share of our citizens who earned a higher education certificate or degree to 43.7% of working age adults; but we have fallen relative to other states and now rank 36th in the nation.



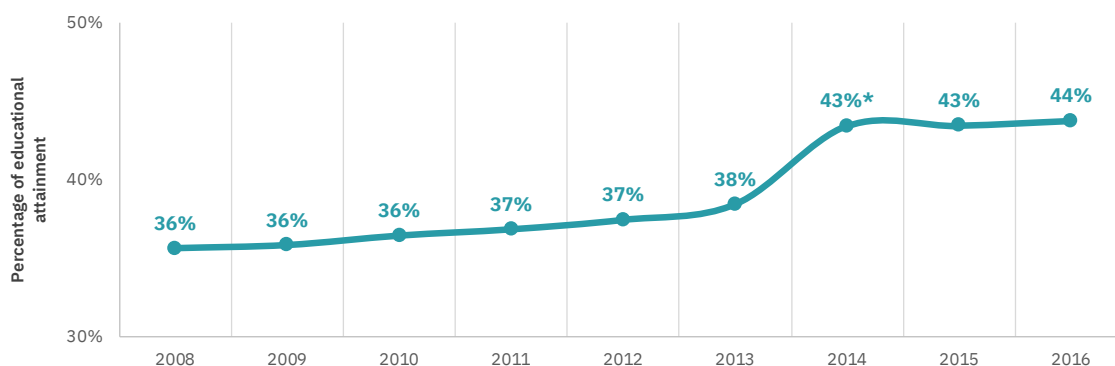
FIGURE 27 Michigan's credential attainment rate in comparison to national average
Ages 25-64, 2014-2016



U.S. Census Bureau American Community Survey; <http://www.census.gov/programs-surveys/acs/>, ACS 2016 1-year estimates

FIGURE 28 Michigan's progress

To reach state goals, the state will not only have to maintain current rates of attainment but also significantly increase the number of people who enroll in programs and earn all types of credentials beyond high school. With the inclusion of workforce certificates (beginning in 2014), Michigan's overall rate of educational attainment has increased by 8.1 percent points since 2008.

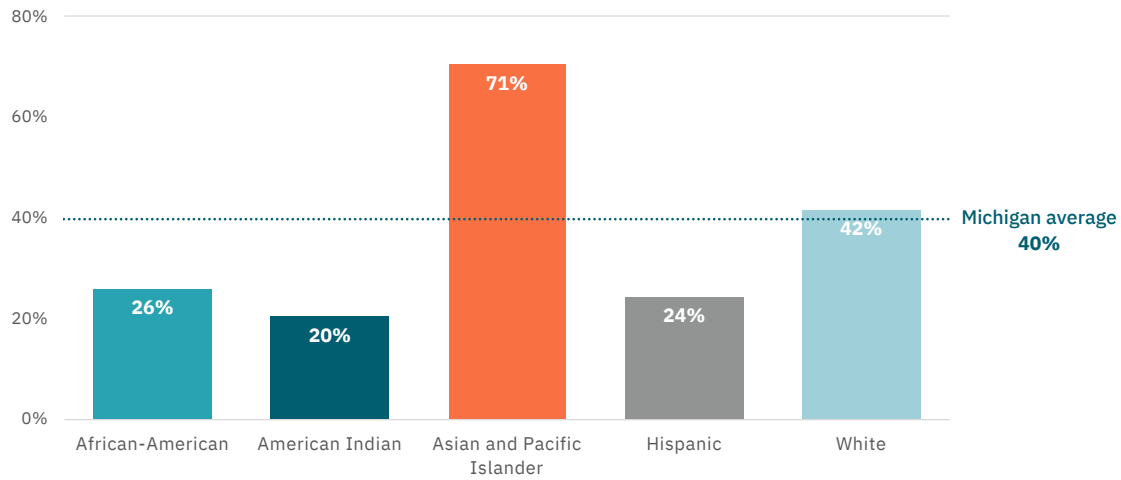


*Note: Since 2014, workforce-relevant certificates have been included in the total of postsecondary credentials.

Lumina Foundation, Stronger Nation Report 2016

Gaps in educational attainment by race and income are still severe.

FIGURE 29 Michigan degree attainment rate (associate and higher), by race/ethnicity
Persons age 25-64, 2016



U.S. Census Bureau American Community Survey: <http://www.census.gov/programs-surveys/acs>, ACS 2016 1-year estimates



TABLE 2**Michigan degree attainment rate (associate and higher)***By CEAC/MI Works! Region, age 25-64 (2016), ranked in order of attainment*

Rank	Region	Attainment	Counties included
1	Oakland	56.0%	Oakland
2	Southeast Michigan	47.7%	Hillsdale, Jackson, Lenawee, Livingston, Washtenaw
3	Capital Area	45.7%	Clinton, Eaton, Ingham
4	West Michigan	39.2%	Allegan, Barry, Ionia, Kent, Montcalm, Muskegon, Ottawa
5	Southwest Michigan (Kalamazoo Area)	38.6%	Branch, Calhoun, Kalamazoo, St. Joseph
6	Southeast Michigan (Out-Wayne County/ Monroe)	38.8%	Monroe, Wayne County (except Detroit)
7	Northwest Michigan	37.4%	Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kakaskas, Leelanau, Manistee, Missaukee, Wexford
8	Macomb/St. Clair	36.8%	Macomb, St. Clair
9	Great Lakes Bay	35.6%	Bay, Gratiot, Isabella, Midland, Saginaw
10	Southwest Michigan (Benton Harbor Area)	34.8%	Berrien, Cass, Van Buren
11	Upper Peninsula	34.4%	Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, Schoolcraft
12	East Michigan	30.9%	Genesee, Huron, Lapeer, Sanilac, Shiawassee, Tuscola
13	Northeast Michigan	28.3%	Alcona, Alpena, Cheboygan, Crawford, Montmorency, Oscoda, Otsego, Presque Isle
14	West Central Michigan	27.6%	Lake, Mason, Mecosta, Newaygo, Oceana, Osceola
15	Mid-Michigan	23.3%	Arenac, Clare, Gladwin, Iosco, Ogemaw, Roscommon
16	Detroit	20.9%	City of Detroit

MCAN analysis of U.S. Census Bureau data, 2016

And very different Michigan regions show very different levels of postsecondary credential attainment—

These geographic labor market differences underscore the importance— as they do their strategic planning – that the newly formed regional Career and Education Advisory Councils (CEACS) look hard at their own gaps in credentialing, and whether they are meeting the needs of their particular employer mix and labor market in their communities.

As we look anew at key performance measures on the pathway to an individual getting a postsecondary degree, certificate or other credential, we are seeing:

- ▶ Improved but still weak readiness to enter postsecondary education. As gauged by the SAT test all high school students must take, only 34.9% of students were “college ready” on both areas of SAT (480 in reading/writing & 530 in math)
- ▶ Stubborn gaps in preparation to do postsecondary work based on race and income.

FIGURE 30

College readiness

2017 SAT, all students

1007.6

Total mean score

Test administered to all 11th graders in Spring.

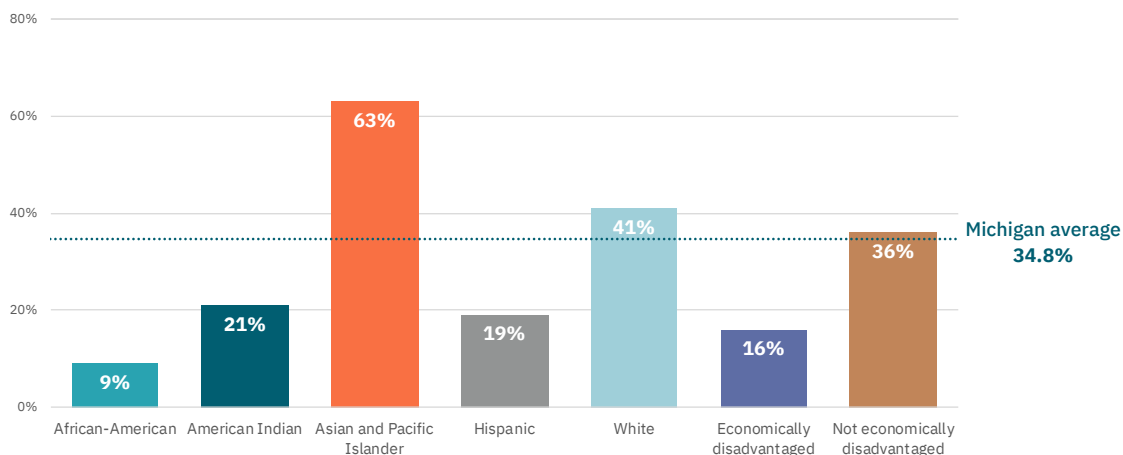
35%

College-ready

Met or exceed college readiness benchmarks, including a score of 480 in Reading/Writing and 530 in Math.

mischooldata.org

FIGURE 31 College readiness for all students, and by race and income



www.mischooldata.org

- ▶ While the number is down thanks to the hard work in our high schools and receiving colleges many students still need developmental (or remedial) education at the postsecondary level, 27.2% of students enrolled in a Michigan college are still taking at least one remedial course—which often negatively affects their ultimate credential earning success.
- ▶ Students of color and low-income students are even more likely to need developmental (remedial) education when they enter college.

FIGURE 32

College readiness

Remedial coursework, all students

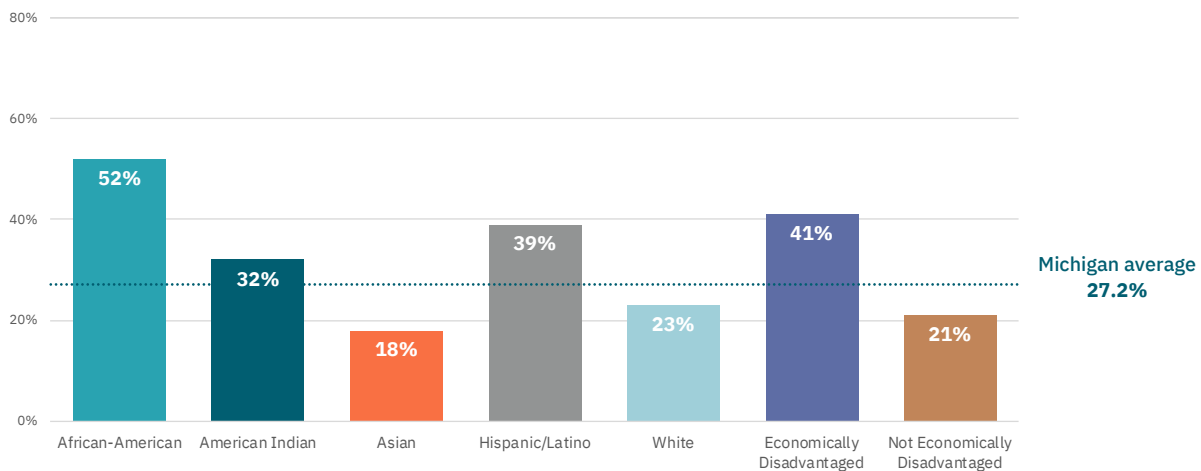
27.2%

Remedial Enrollment Rate

Of those students from the HS graduating class of 2016 that enrolled in a Michigan college or university, 27.2% took at least one remedial course the year after high school graduation.

mischooldata.org

FIGURE 33 Class of 2016 college readiness
Remedial coursework, by subgroup

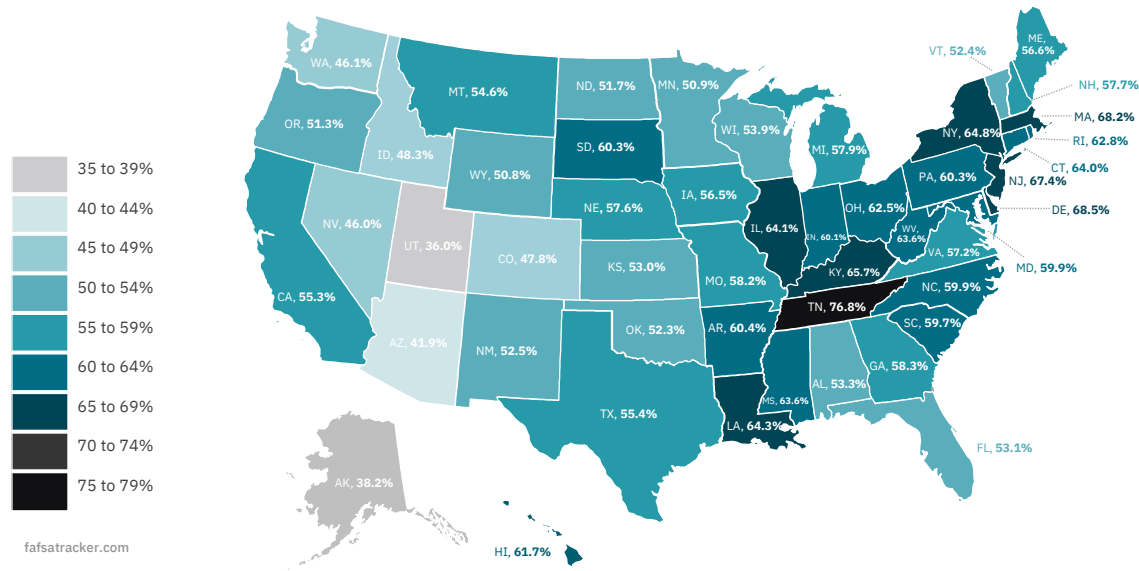


www.mischooldata.org

- ▶ We are getting more students oriented toward a postsecondary education—and taking the steps to get there. FAFSA (the free application for federal financial aid) completion rates - a good proxy for college access - continue to increase. Now 58% of enrolled seniors are completing this essential step toward higher education.

FIGURE 34 Share of seniors completing the FAFSA

Michigan ranks 24th out of the 50 states with a FAFSA completion rate of 57.9%



- ▶ In additional good news, college enrollments have increased 68% of high school graduates now enroll in College within 12 months of graduation.
- ▶ But enrollments for students of color and low-income learners lag too far behind:



FIGURE 35

College enrollment

All students

68.1%

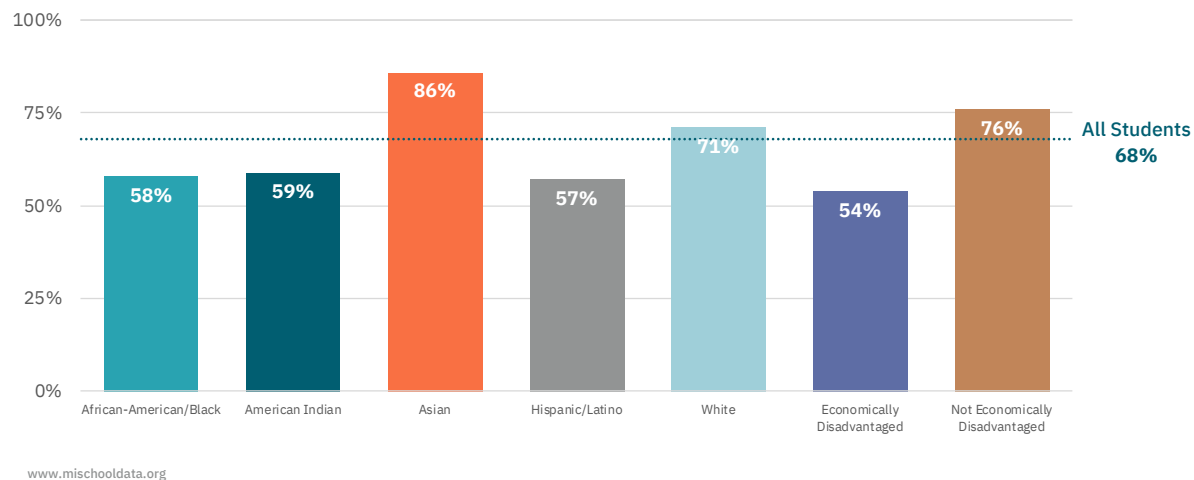
College Enrollment Rate

Of those students who graduated from a Michigan high school in the Class of 2016, 68.1% enrolled in a college or university within 12 months of their high school graduation date, including 2-year, 4-year, public, private, in-state, and out-of-state institutions.

mischooldata.org

FIGURE 36 College enrollment rate

All Students, by race and income



A key indicator of the performance of higher education is whether once enrolled, students (young and old) persist to complete a valuable credential or degree. If they do—they are in good or excellent shape in the labor market—and usually able to repay any debt incurred to get there. If they don't, they are stuck or sunk financially.

Michigan colleges and universities are doing their job to improve learner success and make higher education work more efficiently to save public and tuition dollars. The work to improve institutional success rates at our colleges and universities by providing better guidance, support, and mentoring, and making sure courses and credits transfer, appears to be paying off.

Our community colleges continue to improve their student success rates, as seen in the share of students who successfully complete a credential or transfer to another institution to continue their education.

FIGURE 37 2009-2016 Community College comprehensive success rate

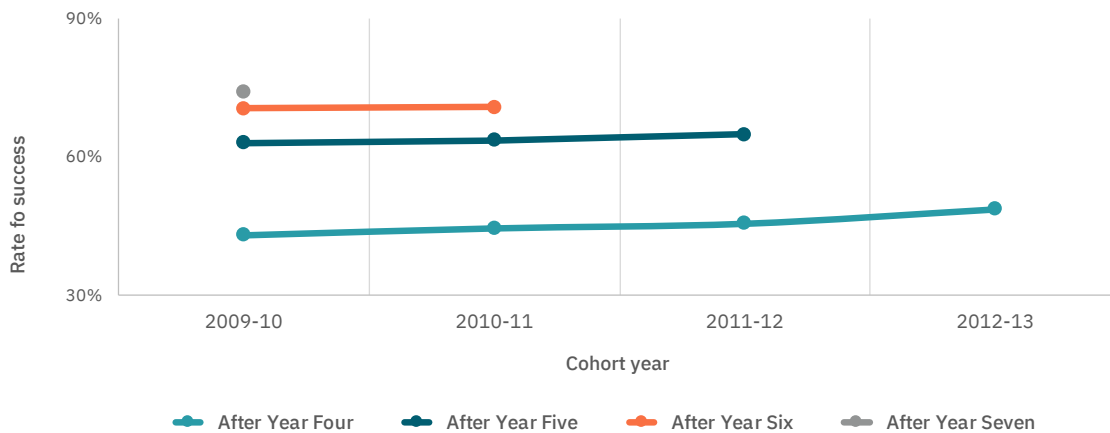
Our community colleges continue to improve their student success rates, as seen in the share of students who successfully complete a credential or transfer to a four-year institution to continue their education. The success rate after four years has improved from 36% to 42.4%.

Year Entering Higher Education	After Year Two	After Year Three	After Year Four	After Year Five	After Year Six
2009-10	18.9%	29.3%	36.0%	40.1%	43.0%
2010-11	20.5%	30.2%	36.5%	40.5%	42.9%
2011-12	21.6%	31.5%	37.8%	41.6%	43.8%
2012-13	22.2%	32.6%	39.0%	43.5%	
2013-14	23.1%	34.1%	42.4%		
2014-15	24.3%	35.7%			
2015-16	25.2%				

Similarly, the comprehensive success rate of our universities shows that these institutions are improving performance. Today, 71% of students achieve a credential or transfer toward higher learning.

FIGURE 38 2009-2016 University comprehensive success rate

The comprehensive success rate for all public universities includes students who have earned a certificate, associate or bachelor's degree.



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All in all, Michigan has raised its postsecondary credential attainment rate eight degree points in the past nine years, and shown it can effectively organize to boost access and success measures. **But we must double our rate of improvement if we are to meet our state's talent needs and goal of 60% by 2025.**



Accelerating Opportunity– Agenda for the Future

As we look ahead, if we are to ensure many more individuals achieve the life-changing goal of a postsecondary credential – then as institutions and decision-makers in our schools, colleges and universities that prepare Michigan’s talent – we must ramp up our efforts. And we must persuade decision-makers in Lansing about the importance and urgency of supporting all forms of postsecondary credential attainment.

We have to raise the stakes: **Higher education credential earning, talent attainment, and meeting Goal 2025 has to be the No.1 priority for Michigan.**

Michigan has many important priorities that matter to our economic future and our people. Fixing our roads. Rebuilding water infrastructure. But as we have seen in this report --nothing is more central to our ability to create jobs, attract jobs, and help our citizens adapt to economic change than equipping all of our people with a postsecondary credential and the skills to adapt.

A real commitment to talent building starts with early childhood education—where Michigan has made progress. An essential foundation also includes the long overdue overhaul of Michigan’s K-12 school funding formula, and commitment to K-12 educational quality – so learners have the solid foundation on which to take the next step to obtain postsecondary credentials.

Tomorrow’s workers emerging from our K-12 system can and must be supported to access and attain a credential beyond high school. A credential that makes them ready for a changing workplace, armed with specific specialized skills—and the higher-order critical thinking, adaptive, and other skills that support ongoing success.

There are tens of thousands of workers already in the labor market whose talents Michigan employers need and we can't afford to waste. Today's Michigan workers have to be equipped with the skills and credentials for success in the workplace—including the ability to successfully change occupations. Michigan has more workers on the job today at risk of job loss due to automation, than almost any other state.

And Michigan needs all of its talent. All our citizens - young and old, black, white and brown, rich or poor – must be supported to higher levels of learning. We have to close gaps in outcomes by race and income; help all learners reach their full potential, and not waste any of our peoples' abilities to support themselves and contribute to society.

It is also time to **Reframe the Talent Attainment Target and Debate.**

We must end the “College” vs. “Career-Technical” debate. The agenda for Michigan must be College and Career, not College or Career. We need over 60% of Michiganders to have all forms of valuable postsecondary credentials if we are to meet the demands of the economy and create opportunity for our people. As we have seen, the education system built for our last century's economy segmented learners into “college-prep” and “vocational” pathways. The push in recent decades toward making sure postsecondary credentials replaced a high school diploma as the minimum threshold for workplace readiness, was interpreted by many as a “college-only” agenda that eroded vocational education.

- ▶ Michigan's talent attainment efforts are not an “either-or” proposition, but a “both-and.” We do need to expand Career Technical education, and we need more people successfully earning postsecondary credentials in important professional and skilled trades. We also need many more people educated to high levels in a host of STEM, social science, liberal arts and advanced learning degree fields where the economic opportunity payoffs are real and growing, and the chances of successfully staying afloat in the white-waters of a changing economy and labor market are high.

Michigan must also build a system of learning paths that work for everyone.

This means creating multiple open-ended pathways that deliver the skills to navigate and create your own opportunity, and engage in lifelong learning.

- ▶ In a workplace defined by change, with the rise of new occupations and sometimes the elimination of old ones, we can't think of degrees or credentials as the end of learning, but rather as valuable way stations on an evolving career path. Our talent attainment goals should reflect an emphasis on cultivating higher order navigational skills and a “the higher, the better” understanding of postsecondary credentials. The occupations that are coming, those that exist today that are both growing and paying well, and skills needed to adapt to change, all suggest higher levels of formal degrees and credential attainment is critical.

An election year and a change of administration is both a challenge as well as an opportunity. ***The importance of making higher education and talent attainment Job 1 for Michigan can be made a key feature of the election year public discussion.*** The nature of the higher education credentials and skills we must deliver to Michigan citizens – and how we can go about doing that, must be an important text to inform the policy agendas of the next Governor and Legislature. Finally, the collaboration among stakeholders as represented by the work of MIHEART, can and must continue through changes in Administration.

To reach our continuing goal of getting Michigan into the top tier of higher credentialed states—with more than 60% of our people achieving any and all forms of valuable postsecondary credentials -- we need to redouble our efforts in key high-yield strategies where we are beginning to get traction—and seeing success:

Invest in talent

During the tough times of the last decade Michigan dramatically cut its investment in talent-building- most significantly by reducing state investment in state support for higher education and student financial aid by over one billion dollars annually in inflation-adjusted dollars. In the most recent and current budgets, with funding of the Marshall Plan, significant increases in career-technical and professional trades funding, and modest increases to higher education and financial aid – Michigan has expanded investment again in some elements of its total talent building system. Yet Michigan's budget and policy priorities do not yet match our Talent-building ambitions nor the imperative to equip more Michiganders with the skills and credentials essential for their own economic opportunity and security, and to power our economy. We have not provided the resources requisite to allow our colleges and universities help learners overcome non-financial barriers to success. And by shifting the cost-burden onto individuals and families and making higher education less affordable, we've taken this life-changing opportunity out of the reach of many of our own citizens.

Michigan must continue to increase investments in our educational infrastructure and talent development if we are serious about meeting the talent gap. The State of Michigan's primary role in higher education is the allocation of support for its public universities and community colleges in the context of a performance driven system in which public colleges and universities are expected, and required by performance funding to provide high quality education at the lowest cost to individuals and taxpayers. The tuition cost for Michigan's community colleges has remained affordable for most all students. But with declining real-dollar revenues from the State, community colleges can't do all that is necessary to ensure the credential-earning success of their diverse, and often working-age adult populations - many of whom face non-financial barriers to the completion of degrees and credentials. Without sufficient, consistent, and sustained state funding for institutional operations, Michigan's universities can't mitigate tuition price escalation and keep college affordable for all students. Forty years ago, state support for universities was 70 percent of operating revenues. It has since

fallen to 23 percent of operating revenues today, with students and families having to pay the difference.

Recommendation:

- ▶ Increase annual operating support to at least 1% above the rate of inflation as part of a performance-driven funding system.

Stop the squeeze on families--increase state need-based student financial aid.

The long-term trend of state disinvestment in higher education has slowed but not been reversed; this puts the burden of cost on individuals and families. The result: many families and potential students think higher education is out of reach, and don't even aspire to it, much less earn a needed degree or credential. Income-targeted state grant programs are important tools in addressing this gap between family resources and public college costs. Michigan's state financial aid appropriations peaked in 2002 at \$262 million; they are less than half of that today. Adjusting for inflation, this is a 65% reduction. In 2016, Michigan ranked 32nd in the nation for state-based financial aid; it ranked 40th in the nation for financial aid to its universities – a paltry \$266 per student.

Recommendation:

- ▶ Increase state investment in need-based student financial aid programs by over \$400 million dollars to put postsecondary education financially in reach of all – and place Michigan among the top states again in support of higher learning. Continue to promote access for lower-income students, and implement the Marshall Plan's Adult and Youth "Talent Scholarships."

Create a financial guarantee for adult workers to gain needed skills and earn valued credentials.

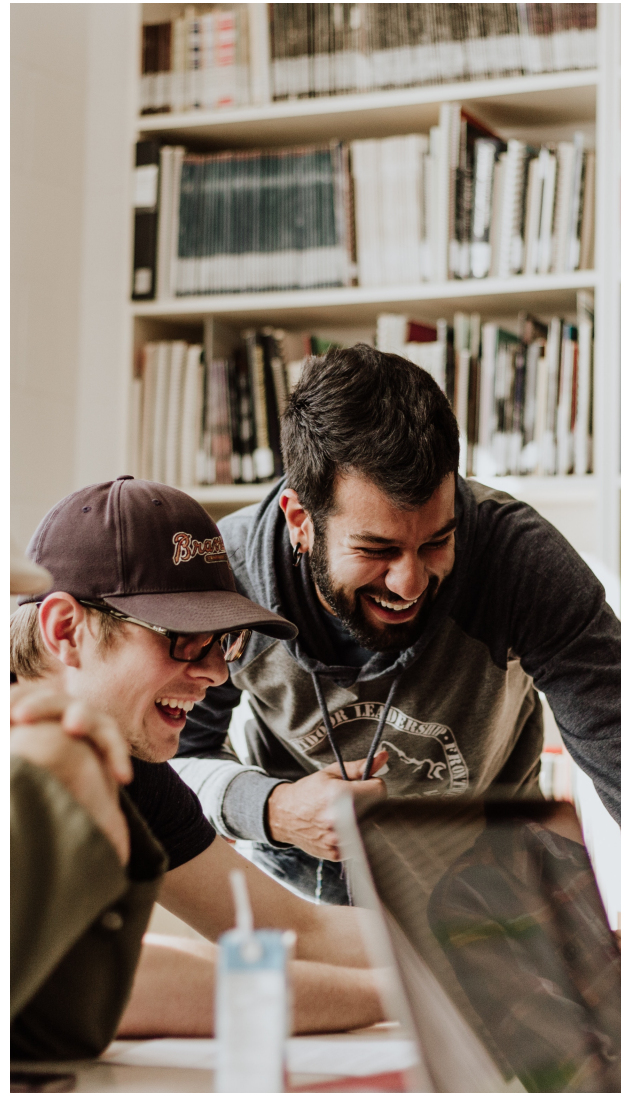
At 20.4 %, Michigan has one of the highest shares of adults with some postsecondary education experience, but no degree or other workforce valuable credential. There remain extant mismatches between technically demanding good jobs, and the pool of workers to fill them. Adults are far and away the largest single cohort of citizens who, if supported in achieving workforce relevant credentials, can advance Michigan's goal of 60% of our population earning valuable degrees and credentials.

Michigan's own Kalamazoo Promise and other programs show the power of a simple postsecondary guarantee to engage learners. Michigan demonstrated several years ago in its No Worker Left Behind Program, that a simple, easy-to-understand guarantee of affordable postsecondary credentials could dramatically increase participation. The program attracted 160,000 adult learners to re-engage to earn an economically valuable credential.

Since 2014, the State of Michigan has also effectively supported employer workforce needs and enhanced worker skills by dedicating over \$72 million dollars in competitive awards to more than 2,200 Michigan companies through the Skilled Trades Training Fund (now rechristened the Going PRO Talent Fund). To date the program has resulted in the creation of 14,000 jobs and the retention of another 56,000—the programs expansion could reach more firms and workers.

Recommendation:

- ▶ A priority for the next Governor should be to organize existing state and federal resources available for workforce training; trade adjustment assistance and other sources; and package into a simple guarantee that enables adult workers without a valuable postsecondary credential, to earn one.
- ▶ Allocate additional resources to the the Going PRO Talent Fund, allowing this effective employer-driven program to aid more workers who are on the job already get the skills and credentials to keep and upgrade their jobs and help Michigan employers to stay competitive.



Enhance college and career counseling capacity, quality, and college and career exploration.

At a time when quality college and career guidance and counseling are essential to navigate the system ahead, particularly for youth in families without a history of postsecondary attendance, Michigan's student-to-counselor ratio of over 700-to-1 makes it impossible to provide quality guidance and counseling to most high-school students. Further, what is needed to be a good counselor and adviser has changed dramatically over the years. The nature of the workplace has changed and an increasingly complex landscape of postsecondary education alternatives and pathways have emerged. To close gaps in postsecondary credential attainment, it is essential to provide quality college and career guidance to all students, particularly students whose families and school systems don't naturally provide this support.

Recommendations:

- ▶ The FY19 budget includes a \$10.5 million appropriation to hire career navigators in K-12 schools. While this is an important first step and will certainly build needed capacity in high schools, Michigan must provide additional financial incentives to high schools to hire more well-trained school counselors in order to lower the current student-to-counselor ratio of 700+:1.
- ▶ High schools, in particular, should strive to achieve a 250:1 student-to-counselor ratio, and ensure counselors are wholly focused on appropriate student-centric counseling duties, as opposed to administrative tasks like scheduling and testing.
- ▶ Continue to support and expand innovative public-private programs like AdviseMI and the College Advising Corps to place near-peer college advisers in high schools to help first generation college-going students take the steps necessary to transition into a postsecondary education programs, like career exploration, application submission, and FAFSA completion.

Continue to improve transfer and acceptance of credits among K-12, community colleges and universities.

Youth and adults alike are more likely to complete a degree or other valuable postsecondary credential if their educational path is clear and movement along it efficient. Appropriately rigorous high school academic and CTE coursework can be better articulated with and accepted for credit by postsecondary learning institutions—building a more seamless (and less costly) P-20 continuum. Today, an increasing number of postsecondary learners are attending lower-cost community colleges while en route to transferring and earning higher degrees. To ensure success throughout their postsecondary journey, learners must be able to transfer seamlessly among higher education institutions.

Recommendations:

- ▶ Continue work to update the Michigan Transfer Network so that the transfer process is more efficient, easier to understand, and optimizes credit transfer.
- ▶ Continue to develop multi-institutional associate to bachelor's degree transfer pathways so that students can begin at a community college, earn an associate degree, transfer to a participating college or university, and efficiently earn a bachelor's degree.
- ▶ Enhance collaboration between K-12 and Higher Education institutions to improve alignment, articulation and acceptance/acknowledgement of credit in appropriately rigorous academic and CTE content areas.

Expand early postsecondary credit “acceleration” of all forms for K-12 students.

Despite the promise of early postsecondary course taking and credit earning as a means to help more individuals achieve a higher education credential, and reduce the total costs of education to individuals, families and taxpayers Michigan has a long way to go to make this promise real for students who wish to pursue it. Fewer than 1 in 12 of Michigan’s eligible high school students participate in early postsecondary learning. And while it’s a proven strategy to increase postsecondary outcomes among economically disadvantaged, minority, and at-risk students, too few at-risk and disadvantaged students participate and reap the learning benefits of these programs.

Recommendations:

- ▶ Every high school student in Michigan should enroll in at least one early postsecondary course or credit experience; and
- ▶ Michigan should triple the number of students earning a postsecondary credential while in high school.
- ▶ Michigan should close the gap in early postsecondary credit taking and earning between at-risk and economically disadvantaged populations and their peers

Active facilitation and promotion, changes to pupil accounting rules, and improvements in the articulation and acceptance of early college credits by higher education institutions will be required for Michigan to meet these goals. There will also need to be changes to the education funding system; it currently discourages high schools from facilitating early college credit earning and makes it difficult for institutions of higher education to justify offering these types of courses.

Continue and enhance institutional “success” strategies.

Michigan colleges and universities have focused considerable attention on improving policies, practices, and support systems to improve completion. These practices close gaps by income and race, and decrease costs for students.

Recommendation:

- ▶ All Michigan institutions of higher education are encouraged to improve student success and completion by leveraging best practice learning networks organized by the Michigan Community College Association, Michigan Association of State Universities, and Michigan Independent Colleges and Universities and other state and national networks.

Conclusion

If Michigan can ramp up its talent attainment efforts per the recommendations outlined in this report – and continue these efforts through changes in state administration and day-to-day politics – we can grow new businesses and jobs in emerging sectors out of the rich innovation base in our colleges, universities and companies. We can spread opportunity more broadly throughout Michigan. And if any more Amazons come calling, they won't even have to ask the question—"Are you ready for the future?" Michigan will already be known once again, as a leader in creating the future!